

PERIODICALS

THE NATION'S SCHOOLS

Our Report Card Is Popular, Praised

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—HOLDS

Old Districts Into New

—ELDER

Shall Schools Expand Up and

—SMITH

Physical Fitness

24 Original Articles • Regular

AUGUST

1943

something has happened . . .

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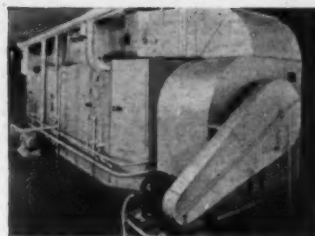
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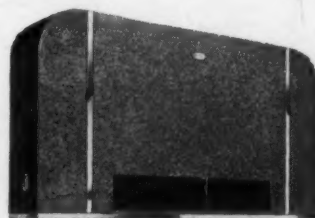
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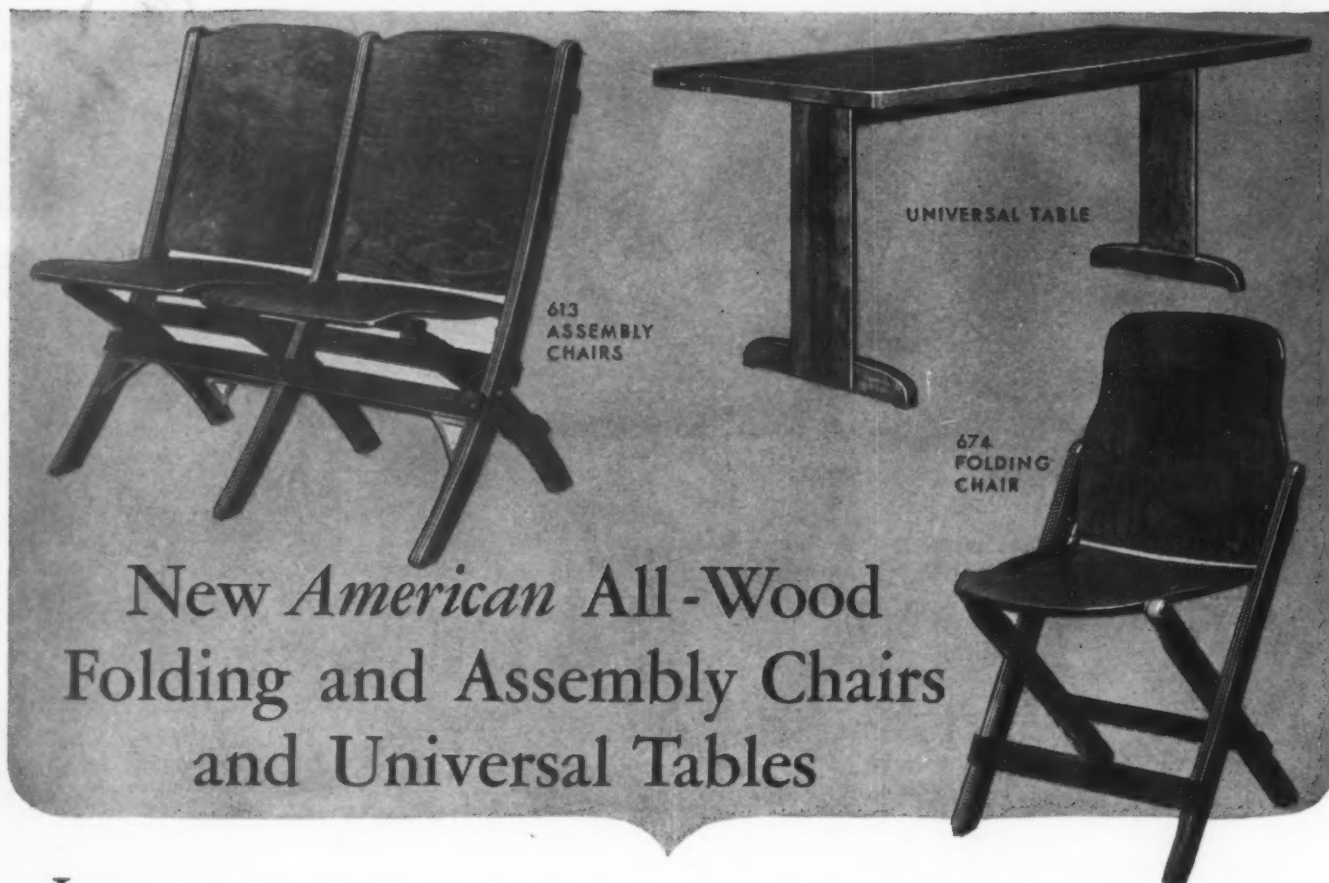


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HEADLINES

PUPILS AND JOBS

How to keep them in school when factory and other wages are alluringly high is the concern of schoolmen, particularly in areas of critical shortage of labor.

The West Coast's four hours in school and four hours in war plant is one answer when the local need to keep the troops supplied is dire.

In a few critical and less critical areas, however, employers are exploiting children, in defiance of child labor laws, child health requirements and school progress. Boys and girls as much as three years under the legal working age are reported to be at full-time and part-time jobs. (Story on page 64.)

JUVENILE DELINQUENCY

The 16,500 federated women's clubs are instituting a national campaign against juvenile delinquency. They hope to spur cooperation between law enforcement agencies and other crime prevention groups, to provide worth-while spare time activities for youths, to make better citizens of them and to prevent a post-war upsurge in crimes of violence.

N.Y.A. FACILITIES

A Senate resolution has been introduced which would turn over the facilities and equipment of the now defunct N.Y.A. to state, county and municipal vocational schools.

FIRE

A million dollars' worth of school property goes up in smoke every month. The W.P.B. is disturbed over the huge number of requests for building replacements. (Story on page 69.)

ARMY

President Roosevelt has signed the bill permitting draft deferment of 18 and 19 year old high school pupils until the end of their current academic year if they are called for induction during the last half of the academic year. (Story on page 66.)

Military scholarships at selected colleges and universities are available to 17 year old volunteers in the Army Specialized Training Reserve who qualify in pre-induction tests. (Story on page 66.)

Senator Pepper has introduced a bill to provide free college tuition and low interest loans to persons honorably discharged from the Army. (Story on page 67.)

PRIORITIES

Schools may now buy a year's supply of maintenance, repair and operating supplies under CMP Regulation No. 5A (f) and under the inventory restrictions of PR-1 and CMP-2. (Story on page 68.)

More tools, more scissors, more kitchen cutlery are to be available to schools and other purchasers under E-6 and L-140-a. (Story on page 68.)

PHYSICAL FITNESS

It isn't all muscle building, the new national movement toward fitness. From Washington comes news of Paul V. McNutt's new National Committee on Physical Fitness. (Story on page 68.)

In a special portfolio you will find the drive highlighted—from mass calisthenics to commando tactics to menu planning. (Articles on pages 33 to 44.)

LUNCH PROGRAM SAVED

Before its summer recess, Congress passed the Agricultural Appropriation Bill which included a \$50,000,000 subsidy for milk and school lunches to nonprivate schools conducting nonprofit feeding programs. (Story on page 66.)

TEACHER SHORTAGE

W.M.C. now has a six point program to avert the critical shortage of country teachers. Rural schools were short 100,000 last year and will be worse off this year. (Story on page 69.)

College teachers not busy because of declining enrollments should be kept in stand-by status until after the war, thinks John Dale Russell of Chicago. He lists duties for them. (Story on page 69.)

CHILD CARE CENTERS

A new \$50,000,000 appropriation under the Lanham Act is expected to finance hundreds of additional war nurseries and child care centers. Forty-six states now have them.

Extension of school services to include the 3 and 4 year olds does not meet the approval of the majority of school administrators interviewed in this month's Poll. The majority does favor extending school services to include the 13th and 14th years. (Story on page 30.)

TRANSPORTATION

Careful summer maintenance of idle buses is essential this year, the Office of Defense Transportation warns school administrators and school bus operators. Detailed procedures have been outlined. (Story on page 70.)

For full news coverage of the month, see news section beginning on page 64.

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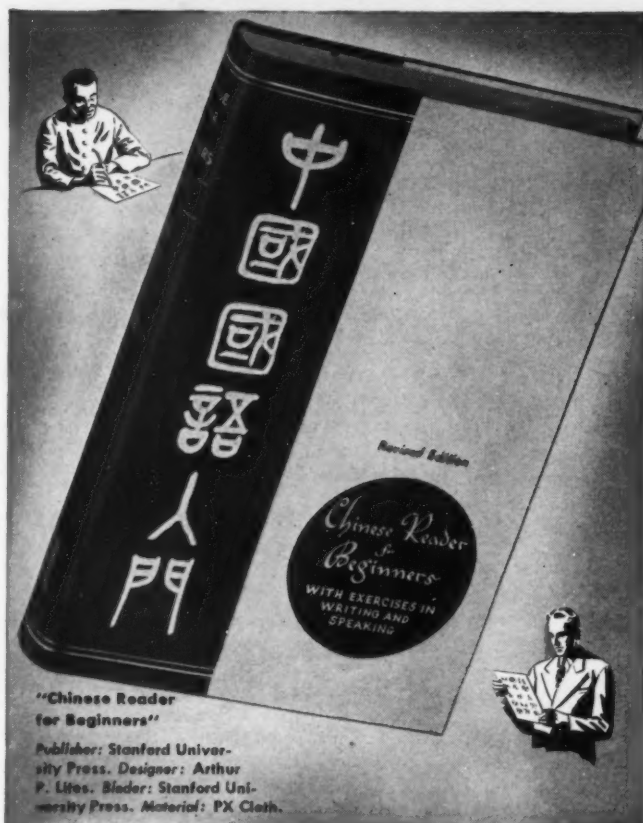
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Vol. 32, No. 2, August 1943



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Questions

- AND ANSWERS

Pointers for Teachers' Meetings

Question: How and on what basis are teachers' meetings conducted?—C.V.I., Wyo.

ANSWER: Teachers' meetings may be limited to four types: (1) a clearing house for information, announcements, scheduling and other routine; (2) a study of technics, demonstrations of good teaching practices and discussion; (3) a study of community needs and the formulating of objectives in preparation of a new or revised curriculum; (4) a study and discussion of modern practices and contributions to the field of education.

Meetings may be a combination of any of the foregoing. They should be held at regular intervals and should always start promptly. The length of the meeting should be announced and it should close on time. There should be agenda designed to enforce the time limit, hold the group to the subject and control discussions. Each person attending should get something worth while out of the meeting. A failure now and then because of lack of planning causes loss of interest.—CHESTER F. MILLER.

Door Checks Won't Work

Question: It is difficult for us to get service out of our door checks. Our schoolhouse is on top of a hill in a windy country. The new checks do not last and those that have been repaired are not satisfactory. Can you help us to solve this problem?—E.C.P., Okla.

ANSWER: If the doors open in, it is almost impossible to get satisfactory service from the door checks where the building is exposed to high winds. In such a case the closer mechanism has to work against the wind. If the springs are set high enough to work satisfactorily on a windy day, they will be too tight on a still day. School doors should always open outward.

Consult the manufacturer's catalog to make sure that your door check is of the size recommended for the weight and size of the door. Why not write to the manufacturer and have him recommend a responsible hardware company in the vicinity or else return the checks directly to the manufacturer who will service them at the factory.

Consider, also, the possibility of vandalism on the part of the pupils for door closers are one of their favorite playthings.—J. W. C.

Analyze Curricular Changes

Question: In what degree is it advisable for the small high school to gear its curriculum to the many war-time suggestions? If courses are to be dropped to make room for new ones or for the expansion of mathematics and physics, just what courses should be omitted?—A.W.H., Kan.

ANSWER: The small high school can adapt its program to war-time needs by selecting the specific things it can do best from the many suggestions that have been made. No school, large or small, can hope to incorporate in full all current suggestions. Each pupil in every high school should be engaged regularly in some war-related service of his school or community.

Teachers in all regular subjects should inform themselves of the specific war-time needs that are related to their subjects and should see that provision for these needs is made even if it is necessary to delete content regularly included.

New courses designed to shorten or to provide more effective preparation for armed and industrial service should be carefully selected. Only those that can be effectively offered should be attempted.

All courses, old and new, should be rigidly scrutinized in order to justify their probable worth to the pupils who actually take them.—H. FRANK HARE.

Schoolboy Driver a Menace

Question: A youngster lives 7 miles from the nearest high school he can attend in our district. He has an automobile, a driver's license and an "A" gas ration card. He drives his car to school when he could, without cost to himself or parents, ride on our regular school bus. During the noon hour he drives his car on the public streets near the high school in such a manner that he is a nuisance and a hazard to children wishing to use the streets. Does the school have authority to tell the youngster to leave his car at home and ride on the bus? Is there any way in which to handle this case other than through issuing a complaint to the peace officers of the town (or county) in which the high school is located?—H.B., Utah.

ANSWER: The ration board would be the only agency to have control of the "A" gas ration card. If the individual is driving in such a way that he is a hazard to the school children, there are three approaches to the solving of the problem:

1. Enter a complaint to the regular peace officers of the town or of the com-

munity in which the school is located.

2. Have the car declared a nuisance to public safety.

3. Have the boy's driver's license revoked.

There is no law in Utah that would require an individual to ride the school bus or prohibit him from using his own automobile for riding to school.—DAVID GOURLEY, assistant state superintendent of public instruction, Utah.

No Change in School Liability

Question: Since O.D.T. asks us to revamp bus routes so that some children walk to and from the bus to their home in the evening, are we, the board and school, liable for the safety of the children after they leave our bus and before they reach home?—W.L.H., Ohio.

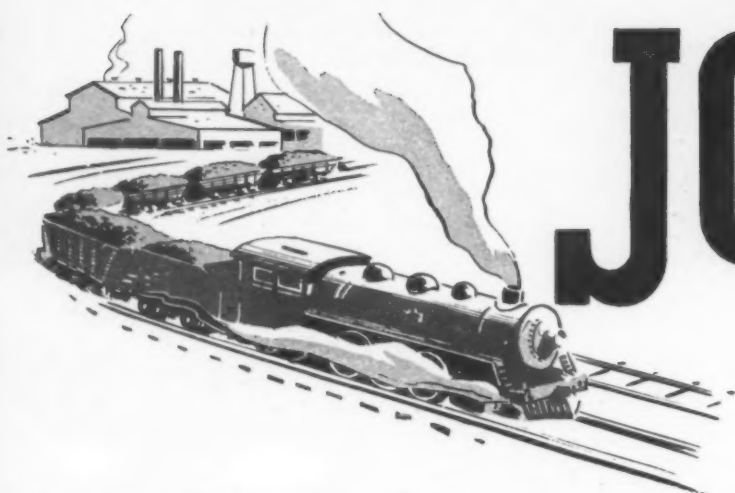
ANSWER: Even under normal peacetime conditions, the law of Ohio does not require school bus transportation for children residing less than 2 miles from the nearest school, nor does it require, where transportation is provided, that the vehicle pass closer than "within ½ mile of the residence of such pupils or the private entrance thereto." Even the latter requirement may be dispensed with if the board of education determines that such transportation is "unnecessary and impracticable." Consequently, the O.D.T. regulations may not have as wide an effect as was first thought.

Furthermore, under the law of Ohio the school board is not liable for accidents at all, so that even if the O.D.T. regulation does change the situation as to transportation it does not affect the liability of the school district. In any event, under Ohio law, the school board may purchase accident insurance covering pupils.

Although the school board is not liable for negligence, there still is an obligation to safeguard school children both before and after their actual transport in the bus. Either bus driver or administrator, if negligent in driving or in administering the school bus program, may be held responsible for injuries.

However, one is not required by law in such instances to achieve a standard of watchfulness and care which the law itself forbids or renders impossible. Therefore, while the bus driver or school administrator still may be liable for negligence causing injuries to the children, the mere incidence of the O.D.T. ruling does not place either of them in greater risk of liability.

The test for their conduct is still the same: could they, as reasonably prudent persons, have anticipated that under the circumstances danger was likely? If a reasonably prudent person could foresee such danger, the failure on the part of the driver or administrator to take appropriate action may result in liability for the school.—HARRY N. ROSENFIELD.



JOIN THE FUEL



If you have Unit Ventilators in your Schools,

it may pay to investigate fuel saving possibilities

FUEL, whether oil, gas or coal, will be a scarce and an important item this winter. Everything possible should be done to properly heat and ventilate your schools with as little fuel as possible.

For over twenty-five years The Herman Nelson Corporation has designed, developed and pioneered equipment to provide better ventilation at less cost. It was Herman Nelson who first successfully pioneered the unit system of ventilation for school buildings. Revolutionary at the time, the unit system corrected many of the costly fuel wasting problems encountered with earlier systems. Then in 1930, following many important contributions to the improvement of unit ventilators, The Herman Nelson Corporation announced to the school field that they had developed a method of operation for unit ventilators called the "Her-Nel-Co Method." This method of operation was in complete accord with the latest concepts of the science of ventilation, provided better ventilating re-

sults and at the same time permitted large savings in initial costs and fuel consumption.

The essential difference between the operation of the older and newer method was this: *With the older method a fixed amount of out-door air was supplied at all times, whereas with the newer method, out-door air was admitted only when and as required for prevention of overheating.* Obviously, the older method involved an excessive capacity in steam supply and distribution equipment and an unnecessary waste of fuel.

When the Her-Nel-Co method was first announced to prominent authorities in the heating and ventilating industry as well as in the educational field, they readily admitted that it was theoretically sound in the light of modern ventilating science but they doubted that it would be accepted by the conservative persons in these fields and, as they stated, there were still the State Laws. Certain states and communities had laws or building codes based upon antiquated theories of ventilating science, which made necessary the constant introduction of out-door air. As is usually the case, such laws were not easily changed.

However, the educational efforts of The Herman Nelson Corporation, assisted by progressive school authorities and the superior results actually obtained from use of the new method of operation soon smothered opposition within the industry and won the acceptance of school authorities. As a result of this effort, the laws of many states were modified.

Since the advent of the National emergency, the experience and abilities of Herman Nelson Engineers have been devoted to the development of special equipment for our war effort. The factory facilities which produced school ventilating equipment in former years are now used for manufacturing Herman Nelson Self-Powered Portable Heaters. These Heaters were designed particularly for our armed forces and are used mainly for preheating aircraft engines in temperatures as low as -65° F.



THE HERMAN

MOLINE,

Manufacturers of Quality Heating,

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NATION'S SAVING PROGRAM

If you are fortunate enough to be located in a community which permits recirculation of air (when out-door air is not needed for proper temperature control) and Herman Nelson Unit Ventilators were installed in your schools on or after 1930, your school is undoubtedly being heated and ventilated with a minimum of fuel consumption. This is because these units are controlled in accordance with the Her-Nel-Co method of operation. You need only to operate and maintain your system correctly to obtain the most economical fuel saving results.

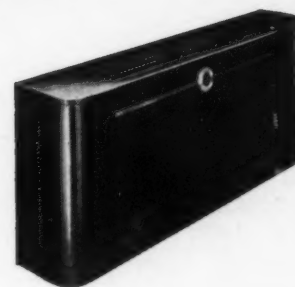
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Unit Ventilator**
**This Unit Permits
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Please send your booklet on Unit Ventilators and fuel saving possibilities. No obligation, of course.

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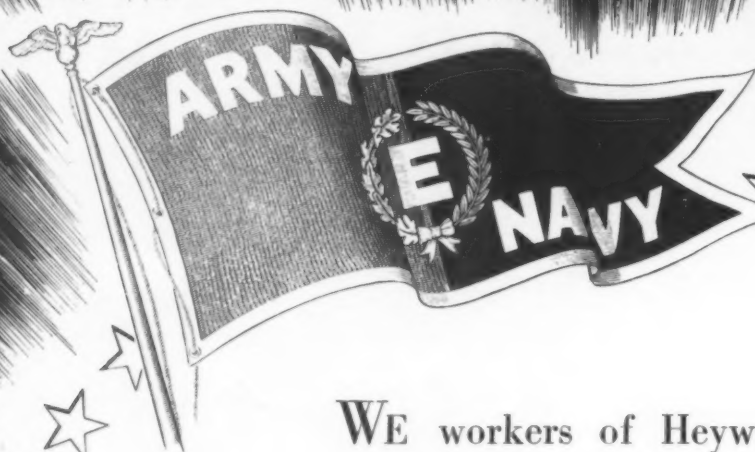
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Established 1826

GARDNER MASSACHUSETTS

LOOKING FORWARD

The Victory Corps

THE serious reading of "One Man's Meat" by E. B. White in the April issue of *Harper's Magazine* or its condensation in the June issue of "Reader's Digest" is urged upon every teacher, administrator, school board member and parent of secondary school pupils.

At the urgent request of many correspondents we had been planning for some time to analyze this Victory Corps idea. Mr. White has dissected the idea so much more effectively than we ever could that we gladly furnish this reference to all interested in the responsibility of public education to the total democratic process.

Mr. White summarizes an increasingly widely held viewpoint succinctly when he states that "If we prepare children at an early age for nothing but military triumph, direct their gaze steadily toward the infamous enemy and indoctrinate them with hatred for opposing peoples, we shall endanger our own position. The best pre-flight training is a view of the whole sky, not a close-up of the instrument panel."

Commissioner John W. Studebaker has informed the teaching profession that the whole idea is voluntary. Let the educator restudy the details of this plan for secondary education thoughtfully and objectively.

Health and Physical Education

THE natural emphasis on physical fitness and dynamic health as a result of the war emergency has revealed shocking general conditions with respect to the population as a whole. The record of illness in industry and commerce and of general physical condition as indicated by Selective Service experience is of extreme significance to the medical and dental professions, to public health specialists, to teacher training agencies and to the teaching profession as a whole.

That evidence is clear that, despite the relatively large sums spent on recreation, competitive athletics and body conditioning, the educational and terminal results have been far from good. Further analysis also indicates that the physical and recreative activities must be considered as a superstructure of which the foundation is good housing, adequate and timely childhood medi-

cal care and good food. It is also increasingly evident that health education, nutrition and body conditioning are going to play a far more important part in the post-war public school curriculum than they have played in the past.

One of the anachronisms of prewar school health and exercise programs is that, while the ideals of strength and dynamic health were gushed from platform and training rostrum, the fundamental aspects of the program and even mass participation were evaded in the interests of revenue-producing, championship-emphasis programs.

Continued observation over a period of years has led to the conclusion that the real fault lay not with the teachers but with the training agencies. Specialized physical training schools under private auspices have been in existence for several generations but public colleges of physical education were not organized until after 1920. The first produced good technicians but the latter, unfortunately, too often have been pointed toward developing future athletes for dear old Alma Mater and the greater glory of the "old man" coach rather than a real college of physical education.

The time is ripe for a new start in health and physical education. The importance of this curricular division both to the individual and to the nation is too vast to permit vested professional and commercial interests to dominate the field. Teacher training agencies should assume decisive and clear-cut leadership in this field. The urgent need is for a different type of health and physical specialist. Rigid selection should be based on all-round ability instead of mere muscular skill.

In terms of university organization, the training program might be organized in cooperation with other colleges and schools. General education should be pointed to provide understanding of and competence in democratic philosophy and practice. Essential training in the basic sciences of anatomy, biology, bacteriology, physiology and nutrition requires cooperation with schools of dentistry, medicine and science. Technical physical and play skills need to be carefully correlated with other aspects of basic training. General and specific teaching methods and understanding of the total education process may be developed in cooperation with departments or schools of education.

The end product of this training should be a competent specialist who understands the total educational program, the importance and relation of health and body growth in the development of physical fitness and dynamic health and the relative value of competitive group play. This specialist would represent so high a degree of competence that he would no longer need be apologetic. He would carry sufficient professional prestige to stand against exploitative, publicity-conscious school administrators whose educational values are completely extrinsic.

In our estimation the training agency that grasps the total concept of health and physical education in the postwar years and cuts through the current cant and hypocrisy of most physical and athletic programs is going to assume an enviable leadership in the public school of tomorrow.

Labor Meets Test

SOME few weeks ago there was a wildcat strike at the Packard Motor Company in Detroit where engines are in mass production for American and British planes. When the reasons had been carefully sifted by union officials, the evidence was indisputable that racial conflict had been fomented because several Negroes had been promoted from unskilled to skilled jobs because of their efficiency and effort.

The shop supervisors were not without responsibility for creating this conflict. This unauthorized stoppage of work was more than a mere slow- or sit-down gesture. It was a strike against the fundamental democratic principle of equality of opportunity regardless of race, color, creed or geographical location. Fascist propaganda? Possibly. It might be better described as a resurgence of American regional intolerance of minorities that started with the treatment of Tories during the Revolution, continued against the American Indian, made itself felt during the large Irish migration of the forties, produced the Ku Klux Klan to terrorize the Negroes in the sixties and after the first World War and has consistently demonstrated itself in the Southwest against Mexican and on the West Coast against Oriental immigrants.

It was a critical situation. Management ignored it. Labor might easily have followed the same pattern. Not so, however. Just as soon as he had the complete evidence, R. J. Thomas, president of U.A.W.-C.I.O., made the most significant pronouncement respecting labor's willingness to maintain the great American principle of equality of opportunity yet voiced by any American labor leader. In part he stated:

"The U.A.W.-C.I.O. will fight for equal rights for all workers regardless of color. If the K.K.K. and the rest of the nightshirt boys want to fight the union on this issue, we are ready and willing to take them on. . . . I am convinced that enemy agents are using this nightshirt Axis to do their work in the arsenal of democracy."

President R. J. Thomas and his organization deserve the highest praise for their fearless policy and their expressed willingness to fight for the great American principle of equality of individual opportunity.

Political Education

UNDERSTANDING of democratic principles and competence in democratic practice demand ideals, attitudes and skills that must not only be learned through practice but maintained through exercise. Although this type of training has been one of the large responsibilities of the public school, it is also one in which the public school has been least efficient. As the result of a number of influences, the typical school citizenship training program of the past may be described as an attempt to teach democratic competence through autocratic practice and by means of academic instead of dynamic methodology.

Millions of our male and hundreds of thousands of our female voters are now in the armed forces. Many of these citizens were called to the colors before they had a chance to participate actively in governmental affairs. They are now being taught efficiency in a regimented system, either the Army or the Navy, which is exactly opposite from the kind of social organization for which they are fighting. They are being toughened for survival and indoctrinated in the art of swift and brutal killing. There can be no current argument against this training since it is, unfortunately, essential in waging total war.

The war will end in a few years. How are these men to be returned to civil life? Is this nation to be confronted with the problem of millions of men attempting to adjust awkwardly to democratic methods after several years of experience under ruthless autocratic organization? This represents a problem worthy of serious study.

The American Army is the only armed force in a major nation on either side of the global struggle that does not provide specific political education for its soldiers. The Axis forces have never stopped the restricted political indoctrination of their men. The British Army has inaugurated a teaching plan whereby the lieutenants, captains and majors are constantly discussing politics and political method with their men. Current educational, economic and social problems are raised weekly for general discussion in both camp and bivouac under officer leadership. The enlisted men are encouraged to participate. Every British regiment is an adult educational center for study of democratic method.

Only the Army of the United States has no general political education program. This neglect may be productive of unusual postwar civil programs. There is no logical reason why the Army and the Navy cannot provide opportunity for individual political education on the same pattern as do the British. If we are planning to remain democratic after the war,

our returning men and women must know how to adjust to peace conditions and how to work for social improvement.

Federal "Service Audit"

FOR those innocents who feel that there is no attempt by the federal bureaucracy to control community educational programs through appropriations we offer some new and disconcerting evidence. The latest innovation is called a "Service Audit" and is a combination of a financial audit and the old-fashioned school inspection.

The audit is a device to by-pass a paragraph in the Lanham Community Facilities Act that was supposed to keep the federal agencies from interfering with the operation of public schools. There is just one sad feature about service audits. It comes from the Federal Works Agency which, until recently, was a legitimate successor to the serviceable and respectable engineering organization, the Public Works Administration. This change in policy is not an accident.

With the 1942 announcement that the Works Progress Administration would be abolished, high New Deal officials started a quiet infiltration of the W.P.A. administrative personnel into the Federal Works Agency. The experienced and qualified engineers of the old Federal Works Agency have been replaced by the political engineers of the Works Progress Administration and Harry Hopkins, the presidential *alter ego*, still dominates the scene through Mrs. Florence Kerr. She was formerly director of operations for W.P.A. and now holds the same position in the F.W.A. and directs the use of Lanham Act funds for regular and extended school operations in war areas. The head officials at the regional levels and state levels are nearly all the old W.P.A. personnel. The directive genius, Mr. Harry Hopkins, cannot be called "nonpolitical."

In recent hearings before the Senate and House committees in Washington, the commissioner of education from Maine stated that the people of a certain community refused to accept a 12 room building constructed with Lanham Act funds and the children still continue to go to school in basements, churches and other overcrowded rooms because a promised \$6000 of maintenance and operation funds had turned out to be merely \$700.

The commissioner of education from Maryland stated that the superintendents of Maryland had banded together and refused to accept Lanham Act funds of any kind for maintenance and operation because of the "red tape," confusion and unkept promises.

A West Coast superintendent stated that he was offered Lanham Act funds for the operation of day-care centers if he would accept two former W.P.A. supervisors.

A representative from Alabama pointed out that the federal agency was constructing school buildings in

Alabama without consulting the state department of education and without regard to the law requiring approval of plans for school building construction. In addition, it was pointed out that more than 1000 children are without school facilities of any kind in the city of Mobile.

A Michigan representative stated that the minimum time for processing applications in Michigan had been seven months and that, as a result of the long delay, schools were forced to operate on curtailed programs, double teaching load, poor salaries and, by the time funds were available, the need was entirely different than at the time of the application.

A superintendent from Ohio asserted that, working through state and federal education authorities, the city of Dayton had set up a war training program involving the rental of a 12 story building and \$68,000 worth of machinery and had started this program within two weeks.

The general undertone of all the testimony was the question: "Are we trying to do something to help the war effort or is this a new kind of social program designed to give a new type of government control over the schools? Communities object to the method of F.W.A. representatives going directly to the school later to return and personally hand the superintendent a check. This is the old political "gratitude" device without any changes. Commissioner Studebaker is to be congratulated for finally giving battle in behalf of public education. We venture the further suggestion that it is time for him, as well as for every school board and superintendent, to pull off velvet gloves in dealing with these brass-knuckled federal bureaucrats.

There is a note of encouragement, however. We have talked with one superintendent who had the service auditor call. After listening to the auditor's story he offered to throw both that gentleman and the program out of the school if the local board of education could not continue to operate its own schools.

English Is Funny

ACCORDING to glowing reports by Army public relations officers and certain special foreign language centers, student officers are rapidly learning the intricacies of the Japanese language. These statements may or may not be completely factual. We insist on certain mental reservations if Japanese is as intricate as former missionary friends have insisted.

Whether the instructors are attaining parallel proficiency in the understanding of English may be pondered from this gem copied directly from a student's workbook. "Mr. Jones," said the urbane and deadpan Japanese instructor, "please translate into Japanese the following sentence: If I could have gone I would have went."

The Editor

This school turns out

FULL-FLEDGED WORKERS

FREDERICK E. SEARLE

Superintendent, Ford Industrial Schools

THE Ford Airplane School at the Willow Run bomber plant, a vital key to eventual full scale production at the huge plant, is an unusual training agency. Its immediate operation is geared to provide enough skilled workers to produce B-24 bombers in quantities that will speed the war's end.

Willow Run is no ordinary manufacturing plant and neither are the majority of workers the factory type of the peace-time era. More than 30 per cent of the employees are women, few of whom have ever worked in an industrial plant. To a great extent the same is true of the men. Most of them are completely unskilled!

As soon as an employee is hired he must be trained to fit into the proper production niche. An aptitude test is given the first day after employment to determine the qualifications of each employee, but the burden of turning out a full-fledged worker rests with the school.

The school is now used chiefly by new employees at Willow Run but the educational schedule also includes three other programs. They are the apprentice school, classes for non-apprentice employees of the bomber plant and the Army Air Forces training program.

Trainee Program

The trainee program is immediately the largest in numbers and of the utmost importance from the standpoint of Liberator production. The feature of the trainees' courses is the close tie-up of classroom work with actual shop practice, which speeds up considerably the attainment of proficiency by new workers.

Trainees spend two hours a day on theory or classroom work and the remaining hours in the plant applying their knowledge to the job. To acquaint them more thoroughly with their work, they are also put through a course in the plant, passing from one sub-assembly to another and sometimes spending as much as a full week on one sub-assembly. This training period may last as long as nine weeks, during which the trainee is paid regular wages on a graduated and rapidly rising scale as his skill and value to the plant increase.

Apprentice Program

Of the four types of educational programs offered by the school, that for apprentices is at present the smallest in number but extends over the longest period of time and is most detailed and carefully planned. Ultimately, the school will be primarily an apprentice training agency.

Apprenticeships are available in the following departments: tool and die makers, electrical, machine hydraulics, pyrometer, machine repair, airframe machine, wood pattern making and welding.

Apprentices are paid regular wages during their apprenticeship, with the exception that academic hours, varying from two to four a week depending upon the course chosen, are not included in their weekly total of working hours. In most courses a minimum of 8000 hours, extending over an approximate three year period, is required for the completion of an apprenticeship course.



Large wooden models of precision instruments are employed to teach new workers the intricacies of the gauges.



Riveting classes are among the largest, this being one on theory. Appropriately so, as some 700,000 rivets go into a Liberator.

Liberator bombers from Willow Run are result of close tie-up of classroom theory and actual shop practice

The standards for apprenticeship training were evolved from the combined talent of representatives of the company, representatives of the U.A.W.-C.I.O. and the federal committee on apprenticeship of the Department of Labor.

Non-Apprentice Programs

Of great importance to the individual, as well as to the company, are the courses designed for Willow Run employees who are neither trainees nor apprentices but who are taking instruction in one or more courses related to their work. These courses are offered free to the employees but are taken on the employees' own time.

It is usual to plan one class immediately before a shift and one immediately following.

The latest catalog lists the following courses: blueprint reading, elementary and advanced shop mathematics, mechanical drawing, inspection, metallurgy, aircraft and industrial electricity, engine mechan-

ics, aircraft instruments, chemistry, physics, shop theory, sheet metal layout, descriptive geometry, aircraft and machine hydraulics, rivet theory, aerodynamics, meteorology, aerial navigation, tool and die design, aircraft lofting and foremanship training.

The school is strictly vocational in the narrow sense; there are no provisions for general education or for recreation and exercise. It operates on two nine hour shifts six days a week.

The Army Air Corps Mechanics School occupies special buildings just east of Willow Run airplane plant. These buildings provide housing for the soldiers in training and ample facilities for instructing 875 on each of two shifts.

The soldiers, who have previously received a general mechanics training at a basic training center, work on a single integrated course, "Familiarization Course on the B-24 Airplane." The course is completed in twenty-eight days.

The School

The school, one of the last designed by the late Albert Kahn, is a modern two story building on the west side of the bomber plant and connected to it by an overhead passage. The structure is 408 feet long and 58 feet wide. Like all Ford units, it is attractively landscaped and immaculately clean.

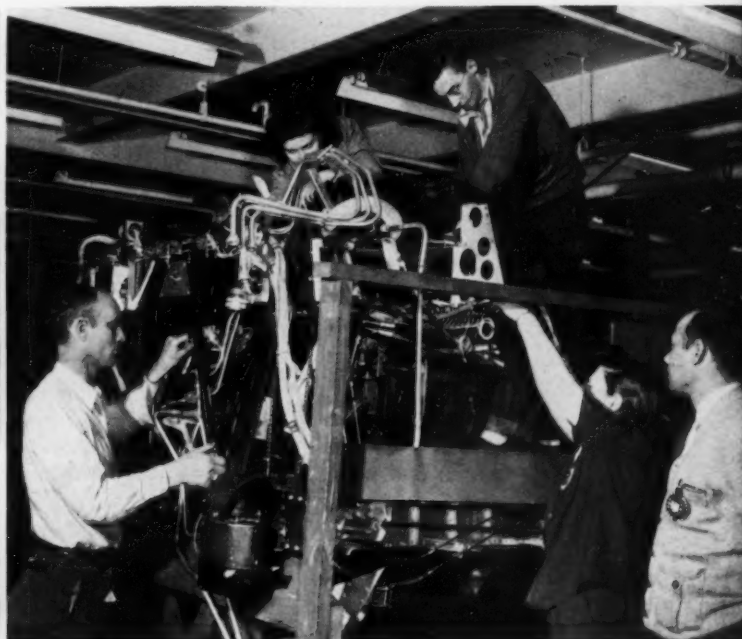
The physical plant and equipment are unsurpassed in industrial education. The school building is divided into 22 classrooms and 11 laboratories. In addition to the library, tool and book store and print shop, there is an auditorium which seats 300.

The school library, with its spacious and well-lighted reading room, houses more than 3000 volumes on technical subjects suitable for reference or collateral reading in connection with classes. Two hundred periodicals, covering virtually every phase of aeronautics, are provided in addition to a pamphlet file containing numerous trade and government publications.

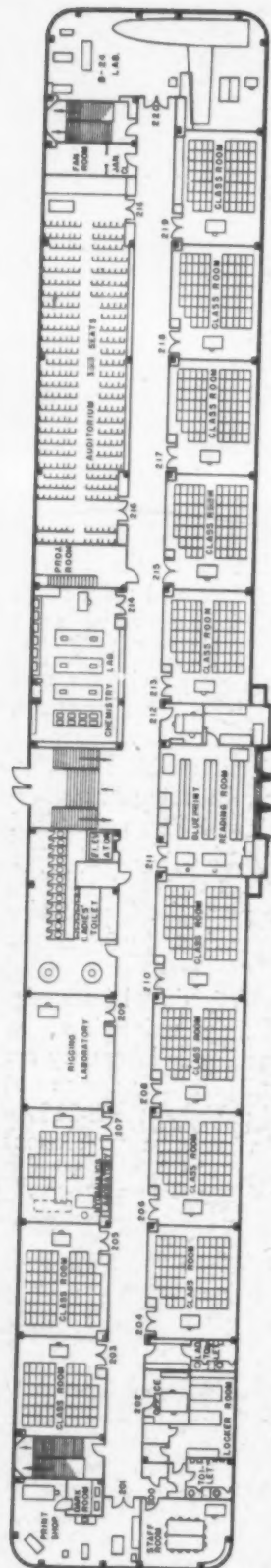
Equipment of the laboratories rivals that of many universities. In the engine mechanics laboratory are four Pratt and Whitney engines of the type used to power the B-24 Liberators, dozens of cut-away sections



Individual instruction and supervision form an important part of all courses taken by new employees at the Willow Run plant.



After listening to lectures on the B-24's main control pedestal, the students immediately apply their knowledge to the job.



SECOND FLOOR PLAN



FIRST FLOOR PLAN

and scores of engine accessories as well as special service tools. The laboratory has its own tool crib in which special tools needed for engine assembly are kept.

Of considerable interest is a special testing panel used for teaching hydraulic maintenance and testing. The custom-built panel, the only one of its kind in existence, will test any kind of hydraulic unit and also may be used for experimental purposes.

The Staff

The teaching staff has been recruited from outstanding and capable vocational teachers in Michigan and neighboring states. It is entirely male. The school is organized administratively under Director S. D. Mullikin and nine department heads, each of whom is responsible for the administration and supervision of the instructors working within his unit.

Teachers work the same hours as the men in the plant and are relatively well paid. The average instructional week is fifty-four hours of which approximately twenty-four are spent in actual teaching and the remainder is spent in preparation and administrative work, such as keeping records and correcting papers. Teachers are employed for twelve months on a day-to-day contractual basis and are allowed two weeks' vacation with pay.

The unit teaching method is used except that each instructor's work has been specialized and confined to a single unit which may take six days or six weeks to cover, depending on the subject and program. Upon completing their unit, instructors start right at the beginning and work through it again.

Classes range in size from five in the apprentice program, 10 in the Army Air Corps course to an average of 24 in other subjects and programs.

The airplane school is playing a vital rôle in acquainting new employees with bomber plant elementals and in arousing job interest. A strong morale builder, it helps the ambitious worker in progressing to higher skills. Its apprentice training—looking forward to the future—is unsurpassed. Finally, it enables the Air Corps to use its excellent facilities in the quick training of soldiers on the various aspects of the Liberator bomber.

SCHOOLHOUSE

PLANNING

DESIGNS for Nursery Schools

HELEN CHRISTIANSON

Supervisor of Nursery School Training, University of California, Los Angeles

AS WE engage in total war, elementary schools are being asked to spread a sheltering wing over those preschool children whose mothers must work away from home.

School administrators and supervisors, together with child care committees representing various community groups, are studying war workers' neighborhoods for suitable housing and play facilities for nursery schools. It is at this point that they turn for help to the specialist in early childhood education.

There may be available space in a school building, a community center, a housing project or a residence, but will the facilities be adequate? What provision should be made for outdoor activity? What equipment is essential at the very beginning? Are there standards that will serve as guides in making decisions?

Adequacy is determined on the basis of purpose. A good nursery school seeks to provide a world uniquely the young child's, wherein he may (1) acquire habits of health and self-care, (2) explore and use his physical and natural environment, (3) find satisfactions in living and learning with other people and (4) enjoy simple esthetic experiences, manipulative and creative activities.

Perhaps a house or school bungalow is under consideration. The first consideration is the amount of available space indoors and out. Education at 2, 3 and 4 is a physically

active process so there must be ample provision for learning by doing both in routine and play activities. In deciding whether available rooms are large enough, it is well to plan in terms of at least 40 square feet per child, exclusive of office, hallways, toilets, storage and kitchen areas.¹

Notice, too, whether the building and grounds lend themselves to a plan for at least partial division of the children into two or three age groupings. "Twos" differ from "threes" and "threes" from "fours" in muscular coordination, interest span and social adjustment. If there is a wide age range within a single group from 50 to 55 square feet per child is desirable indoors. More would be advantageous.² Outdoor play space may be estimated on a minimum of 100 square feet per child, but 200 square feet for each is a more satisfactory basis for planning, especially in climates where a major portion of the children's activities is out of doors.

In Santa Monica, Calif., a community committee at work with Percy Davis, superintendent of schools, and others in the public school system decided there was adequate space for a nursery school on the grounds of a junior high school not far from the Douglas Aircraft plant. An avail-

¹Essentials of Nursery Education. National Association for Nursery Education, University of Iowa, 1941.

²Haskell, Douglas: The Modern Nursery School, Architectural Record 83:85 (March) 1938.



TWO YEAR OLDS

able bungalow afforded desirable space for play and sleep, but what about toilet facilities, lockers for children's clothes, facilities for meal service, space for isolation in case of sudden illness and areas for separation of age groups to enhance opportunities for growth and to avoid overstimulation?

How Food Problem Is Solved

In this case another bungalow was moved into place, joined to the first in "L" fashion, and a doorway was cut between the two large rooms. An office, to be used for isolation when needed, and a bathroom have been partitioned from the second large room. Lockers are to be built along the walls and at one end a wide doorway with outside ramp admits a specially designed steam table mounted on wheels. A large, removable tray, about 6 inches deep, fits on top of the steam table and provides space for carrying dishes, desserts and other prepared foods. Thus, food may be prepared in the school cafeteria kitchen and brought to the nursery school at mealtime. In one corner of the room where the food is to be served there will be a kitchen cabinet, a hot plate and a refrigerator.

In each large room cabinets are being built for storage of cots, with

individual compartments for bedding and open shelves for toys, building blocks and other play materials. Where possible a separate room for sleeping is desirable when children are in school all day. However, with adequate storage space and careful organization, these nursery playrooms can be converted satisfactorily into sleeping rooms.

The nursery school committee is now at work on plans for a school yard that has been fenced off from the main school grounds. There is a possibility for a play section for younger children close to the building. For the older group there is a larger area opening from the main playroom and shaded at one end by eucalyptus trees. Play equipment, flowers and shrubs are to be added.

Inside the building careful attention is being given to arrangement and color. A nursery school setting should contribute to the enjoyment of both children and staff. It needs to be homelike and satisfying to parents, too, a place where they will want to linger a few moments on the way home from work.

Soft colors are being considered for background, with deeper colors for

children's furniture and curtains. Strong but harmonious colors will predominate in toys, play materials and flowers. A few well-chosen pictures will be placed at a level for the children's enjoyment. This constitutes a more satisfying background for daily living than do murals and ornate decoration for it makes rearrangement possible in terms of children's needs and interests.

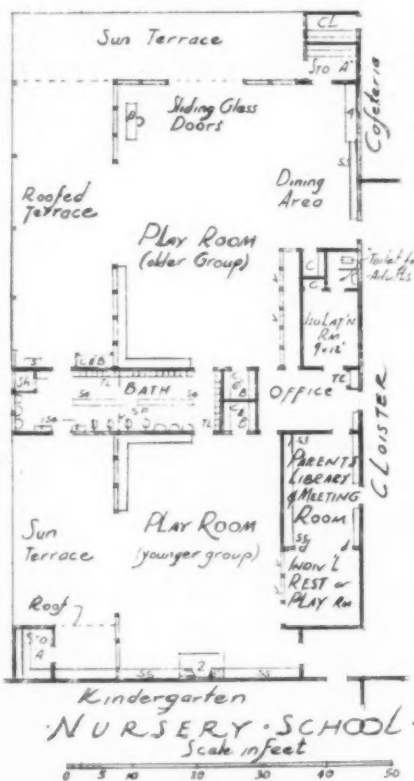
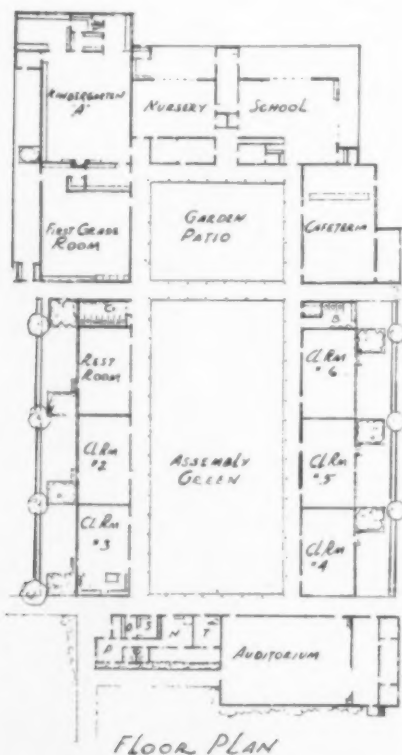
As illustrative of color use, at the University of California, Los Angeles, an old bungalow, now a nursery school, has been made fresh and attractive by making the walls, cupboards and open shelves a warm ivory. The rest of the painting was done by the teachers and mothers.

Color Scheme Is Attractive

The children's furniture is robin's-egg blue; the dolls' housekeeping equipment, canary yellow. Several colors—delft blue, jade green, yellow, robin's-egg blue and a bit of Chinese red—have been used on toys, trucks, trains and hollow box blocks. The curtains are a striped blue and white cotton material and grass rugs of neutral tone are used on the floors. On the walls there are colorful prints that are changed from time to time. Pictures large enough to interest young children mark locker spaces.

A study of thoughtfully designed floor plans will be stimulating to those who wish to remodel.³ The nursery school rooms pictured are an integral part of the junior school, with the intent that (1) provision for daily health inspection include kindergarten and first grade children, (2) the library be available to parents of all three groups and (3) child study at successive age levels be further encouraged by the incorporation of observation booths in the floor plans.

The main entrance is through the office where the school nurse, nursing aide or supervising teacher greets and inspects each child to be sure of his good health before he joins his particular group. Directly off the office is an isolation room equipped with a child's cot, adult's cot, scales, cabinet for medicinal supplies, toilet and filing case for health records. This room is at the disposal of school



Left: Plan of a complete grade school building including a junior school wing (in detail above), designed by a committee of teachers representing the California Association for Childhood Education in cooperation with Dr. Charles Bursch.

³School Housing Needs of Young Children and What Is a Nursery School, Bulletins of the Association for Childhood Education, 1201 16th St., N.W., Washington, D. C.



For the four year olds the "cement mixer" was made by a student teacher. Note the rope arrangement that holds the swing seat secure and the placing of the incline board below where the child may learn to swing himself.

nurse, teaching staff and the school doctor.

The office is used during the day for conferences, staff meetings and work on records. A bulletin board is placed beside the door opening into the parents' library and meeting room. Here are comfortable chairs, tables and open shelves for recent books and pamphlets pertaining to child development, the family and early childhood education. Exhibits of current interest, for example, self-help clothing, picture books for young children, musical instruments or homemade play materials, are arranged by committees from time to time.

Provision has been made in the nursery unit for 30 children, these to be divided into two groups, young and older, with an approximate enrollment of 12 to 14 and 16 to 18, respectively. In the two playrooms, lockers for wraps are built around the corner most easily accessible upon entering the room. A low bench is at hand for the children's use when removing rubbers. The bathroom door is near the lockers. Drinking water and fruit juice are served at a table fairly near the office door.

The major portion of the room is equipped with open shelves for blocks, picture books, toys and other play materials selected with reference

to the interests and potentialities of each group. Thus, a teacher in each room can supervise both routine procedures and play activities as the children are arriving. A third teacher is responsible for the bathroom and outdoor set-up during the early morning.

Because space, air and sunshine are vitally important, both playrooms have sliding glass doors that open onto wide play terraces, enclosed with low walls except at points where ramps or steps lead to the play yards. At one end of each terrace a substantial shelter houses wheeled toys, hollow box blocks, boards and various outdoor play materials. On one wall near the steps there is a low sink where water is obtainable for play purposes. The south terrace, used by the older group, is roofed for play on either sunny or rainy mornings and for rest and sleep later in the day.

Cupboards are provided for storage of folding cots and bedding for 12 children. Cots for the other six are set up on the south side of the playroom. Thus from the terrace doorway, one adult can supervise the resting group that is so distributed that each child has ample space and quiet for relaxation.

The north section of this large room is used at midday as a dining room for both groups. (In good weather, some of the tables are set out on the west terrace.) A closed cupboard contains dishes and other luncheon supplies. The top of it is used as a serving table when the food is wheeled in on trays from the cafeteria. A compact housekeeping closet contains a sink, hot plate, hopper or slop sink, broom closet and shelves for cleaning supplies and utensils. Clay and paints are also stored here.

Between the bathroom and the office there is a teachers' supply closet opening off each playroom. Here are materials, such as posters, pictures, easels and easel paper, stored for occasional use; enclosed shelves for fresh supplies of linen and blankets; a truck for cots, and individual compartments for bedding.

At midmorning, while the children are outside, the playroom for the young group is converted into a bedroom for morning rest periods and afternoon naps. A small room at one end of the parents' library may be used when needed for individual play or sleep. At other times it can be converted by means of a sliding panel into an observation booth or



THREE YEAR OLDS

annexed by folding doors to the parents' room.

The long bathroom in the center of the unit is accessible to each group from indoors and outdoors. Toilet facilities and lockers for toilet articles and clothing are so spaced that a low folding partition or screen can be drawn across the room. Thus, two groups can prepare for dinner or naps simultaneously without disturbing each other. At other times in the day it can be used and supervised as a single room. An open cabinet for toilet articles, with individual compartments on both sides at convenient heights for the children, stands in the center of the room near each of the two groups of lavatories. Junior-sized toilets and low-placed wash bowls are conducive to habits of self-care.⁴

Lockers and Shower Provided

Lockers along the walls are used for sunsuits, extra underwear and clothing when children undress for naps. Under a low bench (10 inches high) at one end of the room is stored a row of baskets for the cloth-

ing of young children not yet ready to use hooks in lockers. In a corner at the other end of the room there is a small, tiled shower-bath with the floor raised two steps above the level of the room. A wall cabinet for supplies hangs in each section of the room.

Planning the Play Yards

The enclosed play yards lie on the south beyond the terraces. Running north and south between the yards, accessible from either side, are pens and cages for pets, flower gardens and a shallow wading pool with running water. In the shrubbery near the building a gate connects the two yards. Surfacing of these yards provides for play on grass, cement runways and a fine, sandy gravel surface, desirable because it dries quickly in damp weather.

Under an arbor in this section there are a carpenter's bench and a box of scrap wood. Both yards are equipped with sand and an outdoor cupboard for sand utensils and toys. In each yard, with appropriate variations as to height, size and complexity of arrangement, can be found packing boxes, boards, sawhorses, barrels, tower gym and other equipment conducive to both gross motor activity and social play. Trees, flowers and shrubs are essential to

the beauty and comfort of this environment and contribute to the children's experiences in many ways.

In providing suitable housing for nursery schools it may be necessary to work out details in simpler ways than the ones described using materials at hand. It should be remembered that adequate playground facilities are as important as well-arranged housing, since the children need to be outdoors for the major portion of each day except in inclement weather.

At the University Nursery School, one grassy yard, 50 by 100 feet, provides ample room for gross motor activities, movable equipment and bodily rhythms. The equipment is simple, much of it homemade. The long incline ramps are used in numerous ways in conjunction with boxes, boards and hollow box blocks. There are nooks away from the large apparatus for paints, clay and house-keeping play. The furniture for playing house is largely made from boxes. The tower gym is mounted on baseboards so that it may be moved to other sections of the yard.

Adjoining this large yard on either side of the nursery school bungalow are two smaller yards surfaced with fine sandy firmly packed gravel. Here most of the stationary equipment is placed. The platform and slide arrangement are homemade. The large box was secured from an airplane factory, and the ladder, railing and slide added by a carpenter. A door was cut in one side of the box so that the interior may be used for storage and wheeled toys and other outdoor equipment.

Outdoor Storage Cupboards, Too

Pets play an important part in the daily experiences of these children. One section of the large pet pen is placed between the two yards. It may be entered from either side and used as a single pen or made into two separate compartments by means of a sliding partition, depending on the space needed by the occupants.

Pieces of large equipment likely to be used by several children at a time are distributed so that little groups will not disturb one another. In each play yard there is a storage cupboard for accessory materials. In order to enhance play possibilities, the "twos" and "threes" or the "threes" and "fours" may change play yards from time to time.

⁴A well-equipped school provides at least one stool and one basin for each eight children. In this emergency, where regulation equipment is not available, supplementary fixtures, nursery chairs, wash benches with pitchers and basins may need to be used.

*The respect of the nation and of the world
for American education may depend on today's*

School Statesmen

LEE R. GILBERT

Dean of Boys, Euclid Central High School, Euclid, Ohio

THE extent to which the schools of the nation throw the full force of their facilities and personnel into the winning of the war may be the ultimate test, in the mind of the average man, of the value of public education.

Toward the goal of early military victory, it would seem that the public schools of the United States are duty bound to the following program:

Direct participation in war-time activities, such as scrap drives and civilian defense. Cooperation of the schools in these community programs is a responsibility entitled to an A-1-A priority rating.

Guidance of young people into occupations vital to victory. Youths must be trained for immediate vocational needs and for the professions. The need for auto mechanics, electrical and radio repairmen for the armed services and for young women to replace men in industry points to the necessity for vocational training. Since medicine, nursing and engineering require longer periods of preparation and more capable recruits, schools should encourage young people with such capabilities to plan for professional education.

Part-Time Employment Helpful

Supervised part-time employment of high school youths. Pupils 16 years of age and older can make significant contributions to the war effort by producing food and munitions and in other ways releasing adults for more vital tasks. Unknown numbers of high school pupils are already at work in either legal or illegal employment. The extension of the idea of cooperative education as now practiced under the George-Dean Act would improve working conditions. Hours of employment would be reasonably limited and supervised employment would en-

hance the educational values of work.

Regardless of war, the continued function of schools in the American democracy is that of unending search for social perfection. Educators must not permit their war-busy days to deter them from the professional obligation of educational leadership. Not all war activities in which both educators and pupils spend time are necessarily in realization of the pervading purposes of education. Real stamina is needed for administrators and teachers to say, "Our schools are doing something to win this war, but what can we do to make victory worth while? How can we work, if need be overtime, to perfect our educational ideals and organization?"

Is Your Curriculum Frozen?

The curriculum is the lifeblood of the school. The developing experiences of young people guided by understanding, capable teachers are its very *raison d'être*. Yet in too many instances the teaching profession has assumed that the curriculum is frozen; tradition has determined the content of the school's offerings. When it appeared that many needs of young people were not being met by the traditional curriculum, activities were added to fill the gap. Perhaps a new course was also instituted. Rarely were any old courses eliminated as outworn. This parallel development of the extracurriculum and elective courses within the curriculum is illustrative of a general unwillingness to evaluate the whole school program and assign proper emphasis to each of its phases.

To date, would-be advocates of curriculum reform have been met by the response, "Who are we to question these values? This educational pattern has stood the acid test of centuries of human experience."

Yet students of educational history are well aware of the fact that educational ideals and practices have tended to follow, although somewhat tardily, the general trend of social evolution. Educational institutions, like all other social institutions, either have responded to the pressures of social change or have been replaced.

Educational inertia is typified by the so-called "standards" fixed by state departments of education, colleges and universities and the several accrediting associations. The impact of the current war upon both secondary and higher education in this nation, however, has resulted in a partial relaxation of pre-existing standards in some of these quarters. The sponsorship of the High School Victory Corps by the U. S. Office of Education and of pre-induction training for high school boys by the War Department appears to be an important factor contributing to a movement in the direction of more individual "home rule" by secondary schools in the determination of their educational offerings.

Three Steps to Take

The time is favorable now for genuine educational statesmanship. Now as never before, schools must evaluate their contributions to social growth. The course to be followed by educators seems clear:

1. *Determine the goals of education.* No criticism of education can be more serious than the charge that objectives have never been clear or that they have been lost sight of in the day-by-day routine of education. Highly scientific teaching technics are wasted when applied to meaningless or outworn purposes.

Sound definitions of general education and specialized education must be determined to serve as guides for the reorientation of the

secondary school curriculum. The relation of the high school to the college needs further clarification. Educators must reach some agreement on the qualities of citizenship necessary for active participation in a democracy.

2. *Subject the existing curriculum to the acid test of determined goals.* The breach between philosophy and practice must be healed. Goals and

activities must operate in a cause and effect relationship. No subject or activity should demand a pupil's time unless it contributes in maximum degree to the fulfillment of the aims of education.

3. *Begin rebuilding the curriculum.* Courses and activities that fail to meet the test should be eliminated. New subject matter should be added and new technics of presentation

should be employed. Educators need to stand back and acquire a perspective of the whole life of the school. Such a point of view would bring about the elimination of many incongruous practices persisting because of lack of self-appraisals.

The world is changing more rapidly than ever before in history. Schools must prepare young people for a different postwar world.

OLD DISTRICTS *into* NEW

SINCE the Washington School District Reorganization Law became effective, 408 of the former 1353 school districts have been disorganized and their territories either attached to other districts or merged to form 61 new districts. In addition, there have been about a hundred cases of transfer of territory from one existing district to another to meet such demands as pupil convenience and welfare and community interest.

Reorganization plans involving the merging of nearly two hundred other old districts into new districts have been developed to the point at which

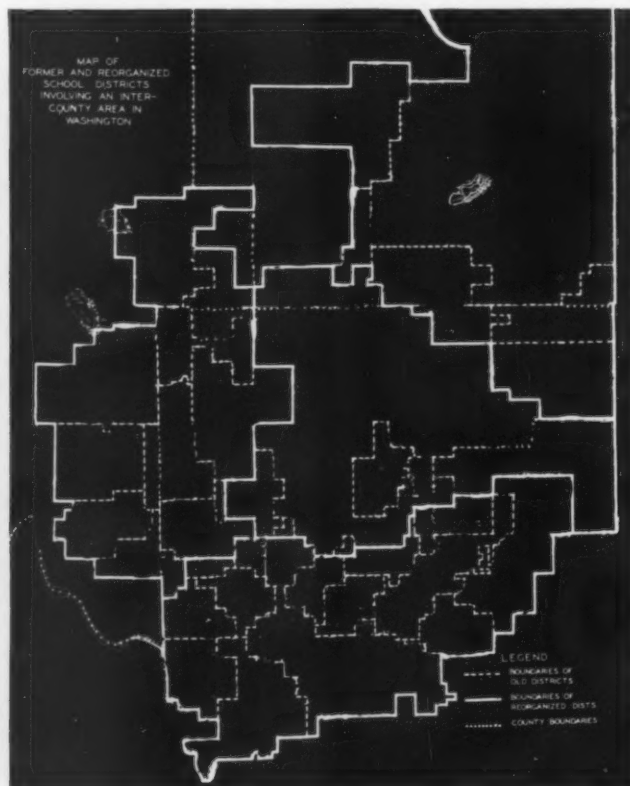
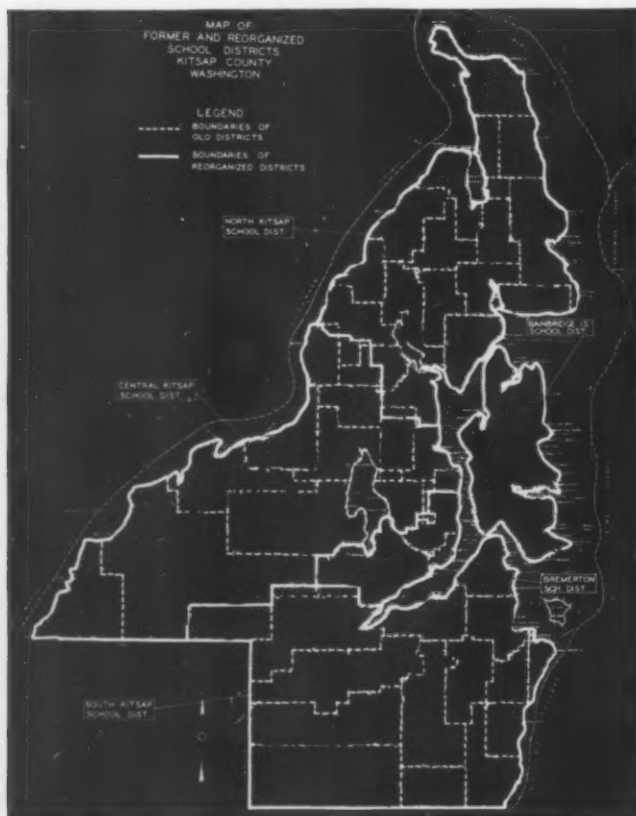
ELMER L. BRECKNER

Director, State Committee for
Reorganization of School
Districts, Olympia,
Wash.

they will soon be ready for submission to a vote of the people, as is required by the reorganization law. This accomplishment in the face of numerous obstacles, including court action to test the constitutionality of the reorganization law, has surpassed all the expectations of the sponsors.

The Washington School District Reorganization Law provides for a school district reorganization planning committee in each county in the state. Procedures to be followed in the formation of new districts and the alteration of the existing district boundaries are set forth.

The most important of these procedures are (1) public hearings as a prerequisite to the formulation of proposals and (2) a vote of the people on any proposal to form a new district. In such an election, the



Left: Map of former and reorganized districts in Kitsap County. Boundaries of old districts are indicated by broken lines. Above: Intercounty area.

residents of the proposed new district vote at large.

Another provision of the act creates a state committee for school district reorganization. Primarily a consultative and service agency, this body is also vested with authority to approve or disapprove, but not to modify, plans evolved by county committees. (Plans that are not approved may be revised by county committees and resubmitted to the state committee.)

The administration of funds available for the district reorganization program also rests with the state committee. These funds are used chiefly to defray the expenses of a staff charged by the act to aid county committees.

Shortly after the reorganization law went into effect, county and state committees agreed cooperatively upon a statement of principles basic in the preparation and evaluation of school district reorganization plans. A brief summarization follows:

1 If the school district is to survive as a unit through which (a) a tax levy is made for school support, (b) housing facilities are provided, (c) an acceptable educational program is determined and administered and (d) an opportunity for truly democratic expression is afforded, it must include an area with a commonality of social, economic, service and cultural interest. It cannot endure as a mere segment of the landscape blocked off over a generation ago to meet primitive needs and conditions now long outmoded.

2 A school district should be so laid out that natural barriers will not separate or isolate one part of the population from another. The inhabited area should be fairly compact. If open country is included in the district, a system of paved or graveled roads should provide functional service.

A school district will usually comprise a city, large or small, which is the commercial, social and service center of suburbs or fringe neighborhoods and of the surrounding open country. The area may include a number of neighborhoods of minor commercial and service activity.

3 School districts in Washington must inevitably vary in territorial extent and in population because of variations in physiographic features and in population density. School

population in any district, however, should be sufficiently large to allow for an educational program from kindergarten through the twelfth grade. On the other hand, the district should not be so large that local interest is forfeited because of the remoteness of schools from community members.

4 The concept of a single attendance center, particularly for elementary school purposes, must be abandoned in planning new school districts. Elementary schools operated at different points throughout the district, according to population requirement, the plan long established in city districts, is a practical substitution.

5 The territory that is now being served by "necessary" high schools may well be accepted as the nuclei of new school districts to be formed under the reorganization act. Essential to such acceptance, however, is proper emphasis on the word "necessary." "Unnecessary" small high schools are now being operated in many districts. It must be recognized that such schools should be discontinued and their territories served by enlarged units.

6 The territorial limits of other political subdivisions of the state, such as counties and cities, should be ignored in determining the territorial extent of new school districts.

One County Reorganization Done

Two examples are illustrative of the reorganization accomplished in Washington. In Kitsap County reorganization has been completed. Replanning in another area comprising territory in three counties has been practically completed through the formation of four new districts, three of which include territory in two different counties.

The completely reorganized county, a map of which is reproduced, comprises a large island and extensive mainland territory jutting into Puget Sound. Population in the county has doubled because of the expanded war activities of the Puget Sound Navy Yard which is located there.

Eighteen months ago there were 50 school districts in this county; now there are only five. The boundaries of the original districts are shown on map 1 by broken lines; the heavy black lines represent the

boundaries of the new district.¹ In only one of these new districts was the vote on reorganization even close, although a majority of the voters in some of the original districts expressed disapproval. (As already indicated, rejection of a proposal in an individual district does not mean its defeat if the majority vote in the proposed new district is favorable.)

Four of these enlarged districts include a small city in which the district high school is located, a fairly densely populated fringe area and much open country, some of which is sparsely populated. The other district (Bremerton) includes the city and its suburban residential areas. In addition to the high school, each district operates a number of elementary schools conveniently located with respect to the homes of the pupils.

All Old Buildings in Use

Only through the district reorganization described above has Kitsap County been able to meet the problems of school housing and service resulting from the tremendous expansion of war industries within its borders. All existing facilities, wherever located, have been made available for maximum use through the elimination of restrictions imposed by the narrow territorial limits of original districts.

Moreover, a limited number of new buildings of substantial capacity have been constructed, under cooperative federal, state and local financing, at attendance area centers located without regard to former district boundaries.

Inter-county districts represent a different type of reorganization, as illustrated by map 2. Although the main part of the area shown on this map lies in Spokane County, the area itself extends into Pend Oreille County on the north and into Stevens County on the west. Thirty-two old districts in the area were merged to form four new districts. Here, again, the boundaries of old districts are shown by broken lines and those of new districts by solid black lines. County boundaries are indicated by dotted lines and arrows.

With one exception, all these new districts comprise territory in more

¹One of these districts (Bainbridge Island) is not a new district formed under the reorganization law. The nine original districts on this island were merged into one under the old consolidation law in effect when the new law was passed.

than one county. Some of the old districts were large in territorial extent as a result of previous consolidation. (Originally there were about forty-five school districts in this area.)

Irregular boundaries of these enlarged districts are caused chiefly by topography—mountain ridges untraversed by highways, streams along which highways have been constructed and homes built, uninhabited forest and waste areas, inhabited sections isolated by natural barriers or poor roads.

Not an Easy Job

Reorganization of a state school-district system is not easy to accomplish. The tradition and sentiment circumscribing the district school are difficult to surmount. Many persons fail to distinguish between the school district as the taxing and administrative unit and the attendance unit or area within the school district.

People cannot get away from the notion that the enlargement of the district always means (1) concentration of all elementary school pupils in a single school and (2) long-distance transportation. The fact that this does not occur when new districts are formed under the reorganization law is slowly dispelling this erroneous notion.

Lower tax rates and superior educational opportunities enjoyed by residents of wealthy school districts present other obstacles to reorganization. Then, too, Washington statutes require high school districts to provide, at their own expense, physical facilities for the accommodation of pupils from districts without high schools.

The unwillingness of a few residents of a small district to accept inclusion in an enlarged unit has led to court action to test the constitutionality of the reorganization law. After nearly nine months in transit through the superior court and through the steps preliminary to final hearing before the higher court the constitutionality of the School District Reorganization Act was sustained by the state supreme court, in a unanimous decision on May 15 [reported in last month's news].

This favorable decision will give tremendous impetus to the reorganization movement within the state and in other states as well.

Join Hands on Community Planning

ENID S. SMITH

Professor of English, Limestone College, Gaffney, S. C.

EVERY town, village or community has within itself the power to become a wholesome—and beautiful—environment.

Charles W. Eliot of Harvard once said, "The power of beauty works for joy and for good as nothing else in this naughty world does or can do. When we come to see this clearly, we are compelled to abandon our indifference and to substitute, therefore, the eager desire of old Plato 'that our youth may dwell in a land of health, amid fair sights and sounds!'"

Noise and the ugliness of street sounds heard in large towns and cities make our era little above that of the savage. These sounds can be made musical. Many of them are unnecessary. Iron-tired trucks still rattle over brick pavements; street cars roar, screech and clang; subway trains suggest nothing short of the orchestras of Hades. Icemen, peddlers, newsboys and barkers call their wares in tones rough and piercing. Psychologists have discovered that noise will drive even rats crazy. The relation of noise to the great increase of insanity in the present generation may well be investigated.

Reducing City Noises

Intelligent planning can eliminate sounds, such as the clash of metal on metal. In the town or city of the future noiseless asphalt will surface the streets; horses will be banished. Automobile motors will be equipped with silencers. Some genius will invent a device that will enable trains to run noiselessly on steel rails and trainmen will be educated to use whistle and bell only when lives are endangered and not from mere habit. Musical sounds of warning will signal "stop" and "go." People will learn to jump aside at the melodious blast of a bugle as well as at the honk of a hooting horn.

If it is necessary to hawk newspapers through the streets, newsboys could learn an appropriate song, accompanied by a sweet-toned instrument, instead of shrieking like the Iroquois. Peddlers could be taught to sing their wares. Fire engines might have a phonographic record, amplified, or a brass band that would peal forth stirring martial music as they sweep through the streets.

This is not as fantastic as it sounds. Actual improvements are being made in various parts of the United States through noise legislation. In some cities and towns it is a misdemeanor to toot automobile horns unnecessarily in certain districts. In New York City in the subway there is one silent train that runs without noise, in which one can converse and be heard.

Beautifying the Town

To the end that "our youth may dwell in a land of health, amid fair sights and sounds" an increasing emphasis is being placed upon the value of beauty in natural surroundings. The time has passed when a barn was more advantageously situated than a house, giving the best view to the cattle.

Several towns have already pledged themselves "to work until every street is graded, every sidewalk shaded, every watercourse laid and perfected and every nook and corner beautified—in short, until art combined with nature shall have rendered our town the most beautiful and attractive in our commonwealth." Some improvement societies often admit to membership any person who annually plants and protects a tree under the direction of the executive committee or pays the amount of \$1 for this purpose.

These organizations are usually started by some zealous woman in the community and are thoroughly

democratic. Such societies are representative of all sections, classes, nationalities and religious faiths. Activities are as comprehensive as possible in meeting community needs and include landscaping as well as organization of lectures, entertainments, clubs and discussion groups.

An improvement society never considers its work completed. Projects are of perennial interest and of increasing importance. Work usually begins with an undertaking that is of interest to everyone, such as beautifying the cemetery, constructing a chapel or furnishing magazines to rural schools of the neighborhood. In some places an annual play day is established, when children and adults picnic and play games. Often there is a street carnival, an automobile parade, a baby show, a society circus, baseball and dancing. Clean-up days are also common.

Raising the Money

Too, the ladies of an improvement society may open a park of 30 or 40 acres, complete with scenic lake, shade trees, lawns, flower beds and flowering shrubs. Other facilities will include rest benches, tea garden buildings, drinking fountains and play equipment.

One improvement society raises \$1000 every year from a fair held before the holidays. The members own a tent and dishes and serve meals. One year the women gave the proceeds to the public library of their town; another year they provided the library with magazines. They also arranged a lecture course and brought prominent speakers from abroad to the community. A part of the work was the revival of arts and crafts.

Prizes were offered for exhibits and children, particularly, were urged to compete. One hundred or more exhibits included a fruit tree, a landscape sketch, a handmade water wheel, a loaf of homemade bread, a hand-hemmed towel and an embroidered bag.

Another group made out a list of projects that would beautify the countryside and circulated the list among the farmers, asking them to check the items for which they would be responsible on their own property. The list included "planting or improving my windbreak," "making a good open lawn," "improving views of my house and the prairie,"

"planting something that will attract friendly birds," "saving old trees on lawn, roadside or field," "screening unsightly objects," "replanning my home grounds."

One southern town provided and furnished a restroom for the convenience of women and children who came to town from outlying districts. An attractive little building was erected, a matron was put in charge and letters were sent out to country women and children inviting them to make use of the room when coming to town to trade. Land surrounding the restroom was purchased by the improvement society and turned into a park. In the midst of the park the society erected a log cabin with small paned windows, wide verandas upheld by rough cedar posts and a spacious rock chimney on one side. This served as a clubhouse.

Many people in the county became members of the society, paid their monthly dues of 10 cents each and

made many plans for civic improvement. They established a clean-up day, built a fountain for the park and concrete steps to the public school building, furnished magazines to the rural schools and, in time, bought a small house that they fitted up as a neighborhood hospital. It was a sunny, airy infirmary with a well-equipped operating room. The house was completely furnished, with rooms for a district nurse, wheel chairs, crutches and other supplies.

All this started from the idea of a restroom. More people came to town, trade increased and many otherwise indifferent citizens were delighted to take part in the improvement of the community.

The secret of success of any improvement society is (1) its real democracy, its enlisting all the people; (2) wide-reaching purposes of interest to everyone, and (3) the realization that eternal vigilance is the price of civic beauty as well as of civic liberty.

Good Behavior on the BUS

W. W. ROBINSON

Chief of Consolidation and Transportation
State Department of Public Instruction, Pennsylvania

MAINTEINING good order on school buses requires the cooperation of pupils, parents, teachers, principals and bus drivers. It involves the following:

1. Careful selection and training of drivers.

2. A continuous program of traffic safety education to develop a knowledge and appreciation of safe practices as related to all modes of travel, with particular reference to riding on school buses.

3. The cooperative development by pupils, teachers and drivers of reasonable rules and regulations to be observed in the interest of common courtesy and safety.

4. The selection, training and supervision of school bus patrols to assist the driver in the safe operation of the bus and in maintaining order.

5. A practical plan of assigning seats to avoid confusion, which invites disorder.

6. The use of a clean, sanitary bus providing adequate seating for each

passenger and preferably equipped with forward-facing seats.

7. The reporting of misconduct by the driver or the school bus patrol to the responsible school official.

8. An impartial hearing of all charges of misconduct by the person or agency responsible for pupil transportation.

9. The administering of disciplinary measures commensurate with the offense.

10. The development of an esprit de corps which makes good behavior popular.

Emphasis should be placed on the prevention of behavior problems rather than on their correction. No mere set of rules will suffice. All too often the whole responsibility for maintaining good order is left to the bus driver whose undivided attention should be given to the safe operation of the bus and who frequently is not qualified by either training or experience to cope with behavior problems.

Our REPORT CARD is both POPULAR and PRACTICAL

MATHIAS A. HIMSL

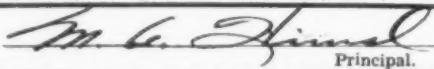
Superintendent of Schools, Broadus, Mont.

AFTER considerable research and six years of trial it is my pleasure to present a report card that has brought forth not a single complaint from pupils or parents. It is as popular as a report card could ever be—and still be a report card.

In composing this card, which we use in high school but which could well be adapted to grade schools, I took into consideration the single purpose of reporting to parents and to the youngsters themselves relative success in the studies for which the pupils were enrolled. This achievement scoring, I found, was what they really wanted. After all, this is about all one can accurately report since attitudes vary so greatly with different persons and under different circumstances.

The system retains the conventional letter scale which parents know and understand but it also provides for "class rank" ratings in each subject. The letter might be a subjective evaluation to a degree but a final class rank, an average of the class rank ratings on the various tests, is strictly objective and free from personal factors. Thus, parents know the general group placement of their youngster, how he ranks with his class and how the teacher distributes marks (class enrollment is also recorded). Parents know, too, that the teacher must mark fairly since the letter mark must, out of reason, correlate with the rank. They then have the standard which means the most to them: "How does my child compare with the others of his group?"

Parents have a rating of their child's learning progress which is devoid of disciplinary influences other than as such conduct would affect the pupil's preparations and ensuing test results. A pupil is judged on his intellectual merit as he ranks with his own society and not on the allied impressions he may have given.

NUMBER 84	<u>James Jane Ann</u> School Year 19 <u>22</u> to 19 <u>23</u>		GRADE 10														
STUDENT'S REPORT																	
	NO IN CLS	FIRST SEMESTER					SECOND SEMESTER										
		Rank	1st	2nd	3rd	Rank	Exam.	Rank	Final	Rank	1st	2nd	3rd	Rank	Exam.	Rank	Final
English II	34	20	C	22	D												
World History	28	23	D	17	C												
Geometry	28	24	D	26	F												
Biology	30	4	B	14	C												
Times Tardy		0	0														
Days Absent		0	2														
(OVER)		 Principal.															

Both sides of the report card used in Broadus, Mont. A duplicate in color is kept for the office records. The envelope is not shown.

TO PATRONS

The reverse side contains a statement of your child's attendance, his subject enrollment, his comparative rank in class, and his accomplishment judged by his instructor after a careful accounting of the child's work. Will you please sign your acceptance and see that the card is promptly returned.

If the pupil's record is satisfactory he deserves commendation; if not please offer what encouragement you can and contact his instructor for a conference.

You are most cordially invited to visit school at any time; your cooperation is most sincerely solicited.

Parent's Signature

First Semester

1st Mrs. J. James
2nd Mrs. J. James
3rd _____

Second Semester

1st _____
2nd _____
3rd _____

Marking Scale

- A Excellent (94-100)
- B Above Average (86-93)
- C Average (77-85)
- D Below Average (70-76 cond.)
- F Failing (below 70)
- W Withheld (incomplete)

The design of the card is simple and necessitates only routine marking by the teacher. Teachers rank each test and record that rank—with letter marks and numerical scores if they wish. At the end of the accounting period ranks are averaged and placed in order for a final figure.

The ranking of the test papers is an easy process which many teachers employ for motivating purposes. Papers are arranged in the order of numerical scores, assuming that most modern testing is objective, and numbered with the highest score "1" and the next high "2." Identical scores receive the same numerical rank. Subsequent papers are numbered from the number of papers preceding.

The consistency of pupil ranks by different teachers in different subjects and the surprising repetition of rank placements have been interesting to observe.

Class rank ratings ensure more careful testing and scoring by the teachers. In a normal group—most average classes are such—a teacher will find some pupils mastering about all that can be expected and, therefore, the highest ranks should be high in numerical values.

If this is not the case the teacher has several points to consider: (1) the test was not valid; (2) preparation was deficient; (3) expectation was too much for the emphasis given; (4) the group is antagonistic, or (5) the group is not normal—this conclusion must not be hasty and had better be supported by testing evidence rather than by subjective judgment.

At any rate the pupil is given the benefit of the doubt since the highest score is ranked "1" even if the numerical mark happened to be 56, or 56 per cent. In such a case a pupil is still the best of his group and the numerical score means little unless the test was standardized.

The principle of this system could be developed in various ways but the card we like is of simple structure printed on index board (4 by 6 inches) in the local newspaper shop. Each card has its manila envelope. We use a white card for the pupil's report and a pink card for the office record.

Without an expressed reason for asking I have found the comments of transfer pupils interesting, espe-

cially those from pupils who have experienced the S and U marks and the 1's, 2's and 3's.

After several periods of reporting on our combination system a girl of the S and U school had this to say: "I like the letter and rank system much better because I know where I stand in competition with the others."

Another pupil of the 1 and 2 school expressed about the same opinion: "You know what you're doing. You know your rank compared with the others."

If the rank system is used pupils put emphasis on the rank rating more than on the letter value that goes with it. They are interested in competition and that is what brings out the best in all of us.

In summarizing, we find that the pupils like our letter-rank combination card for the following reasons: (1) they know their comparative ratings with fellow pupils; (2) teachers must mark fairly; (3) pupils can figure their own marks within given limits and are not victims of a teacher's erratic personal judgment; (4) if tests are poor pupils can still hold their place in the rank ratings, and (5) the method discourages cheating because to help

another means a handicap in the pupil's own rating.

Teachers like the system because: (1) they check themselves when marking on a distribution scale; (2) their tests must be valid or ranked papers will reveal conditions to be remedied; (3) failing pupils need no further evidence of their failure to meet standards than the average rank—assuming the class to be normal—and even parents recognize the verdict required of the teacher, and (4) although this system is more work it makes accounting interesting and has proved well worth the small additional effort.

Parents favor the report card because: (1) they know the general group placement in terms they understand; (2) they know how their child compares with others; (3) they know how the teacher distributes marks; (4) they know what is to be expected by the average rank finals, and (5) they know how large a class the teacher has to handle and can get a mental picture of the classroom situation in which their child is a pupil.

The system has stood the time test for me so satisfactorily that this information is gladly shared with the hope that others may find it good.

Knoxville High Exhibits Bombers



In downtown Nashville, Tenn., recently were exhibited 200 of the 1500 scaled model airplanes made by the boys last year. By this time, of course, they

have been turned over to the Army and Navy. Hugh J. Betts is supervisor of the work and Paul Brewer, the wood-work teacher.

Money Management

ARVID J. BURKE

Director of Studies, New York State Teachers Association

Part III

IF PUBLIC school spending is to be justified and maintained with a minimum of friction it must be defensible.

Defensible spending for public schools presumes (1) defensible objectives, (2) use of the most effective means for attaining purposes, (3) continuous appraisal of results and modifications of program and technique, (4) a reasonable balance between educational activities and other essential life activities, (5) a sound governmental structure, (6) a sound tax structure and (7) competence, efficiency, prudence and economy in management.

All of the stated purposes of public education easily can be defended as shown in my "Defensible Spending for Public Schools." On the other hand, the operational objectives of a school system and the purposes implied in the daily activities of pupils may or may not be defensible. Unless the school administration has determined the individual educational needs of its population in its peculiar environment and has established definite goals, it is not in a position to know whether or not its educational outlays are defensible.

Keeping Faith With Public

If the public is convinced of the value of the purposes toward which a school system is striving, public financial support is likely to follow, but not indefinitely. Faith in the purposes easily may be destroyed by observation of actual results. A school system that does not constantly appraise its operational efficiency in terms of its purposes, experiment, discover improved techniques and modify its practices to attain better results cannot hope to merit continued public support.

To be defensible public school spending must include a reasonable expenditure for the appraisal and improvement of practices. Any objective that the school cannot attain should be eliminated from its list

of purposes. Any objective that can be attained only in part or only under certain conditions should be so stated that the public will understand clearly what can be expected from the school.

If schools obtain support for purposes which cannot be realized because of hereditary or environmental conditions, they are inviting public school expenditure conflicts. Unless results approximate the stated goals, public confidence will be destroyed.

Keeping School Costs in Line

It is possible for education to get out of line in its financial demands. On the other hand, it is easy to expand certain other life activities at the expense of education. The American people have expanded transportation at the expense of many life essentials, including the raising of children and provision for their education. Such maladjustments in consumption can be corrected only through public education. As long as a population is spending about 3 per cent of its estimated income on public education as compared with 11 per cent for transportation, it cannot be maintained that expenditures for public education are out of line with other consumer expenditures.

Extreme decentralization of government generally means extreme inequalities in educational opportunities, short-sighted public policies relative to education, unskilled management, wasteful use of personnel and materials, inertia, lack of appraisal and inability to adapt to changed conditions. Overlapping local units lead to unduly heavy property taxation, conflicts of jurisdiction, undue complexity, waste and duplicating services.

Extreme centralization, on the other hand, provides opportunities for pressure groups to determine public policy, stifles initiative and flexibility, weakens public interest, neglects local problems and condi-

tions and makes all sections suffer the effects of any incompetence in management. Where centralization takes place without abolishing the structure of local government, it has all the disadvantages of both extreme decentralization and centralization.

Larger units of school administration and direct state administration of certain educational undertakings are necessary for defensible spending. However, reorganization of local government will do little to eliminate expenditure conflicts unless accompanied by tax reform, especially the working out of a local, state and federal tax system which, as a whole, will meet the criteria of a sound tax system.

Local control of schools, no matter how large the local unit, is in jeopardy as long as all local units of government must rely solely or largely on the property tax base. Nor will reallocation of control accomplish much, no matter what unit of government is involved, unless there are provisions to ensure competent management.

Maintaining Good Management

Defensible spending for public schools presumes good business and educational management. Indeed, the greatest wastes can result from incompetent educational management because it selects the personnel and materials employed to achieve purposes and decides upon their use. Conversely, the greatest potential economies can be achieved by educational management.

The attainment of good management for schools requires (1) high certification requirements for all managerial positions, (2) provisions for preservice and in-service preparation, (3) legal definition of the responsibilities of management and of lay boards of control, (4) means for informing all school boards of the legitimate functions of management, (5) merit appointments, (6) use of specialized managerial services, (7) an organization that will pool the best knowledge, thinking and skill of the entire staff, with definite lines of responsibility and provisions for appraisal and improvement of all operations and (8) subordination of all related functions to the educational functions.

When handled by competent management, the budget is the key to

defensible spending. A budget is a carefully considered plan in which educational purposes, the need for education relative to other essential services and the means to be employed to attain established purposes are appraised. In a budget choices are made after considering the facts on potential revenues and operating economies. The budget requires the cooperation of all units of government serving the same area. It presumes an accounting system and a research service that will provide the facts needed to make decisions.

After Budget, Work Schedules

Next to the budget the most important tool of management is the work schedule. It decides the use to be made of both personnel and materials. Able, well-prepared personnel should not be used to do work that can be done by persons with less ability, preparation and skill. Persons without the necessary qualifications should not be assigned to achieve purposes that can be attained only by highly qualified personnel.

All but a relatively small percentage of public school spending is for personal services. Personnel management, therefore, has the greatest possibilities for increasing returns for money spent.

The ends sought in personnel management are: (1) securing the most qualified personnel available for each operation, (2) retaining able, skillful and successful personnel and eliminating the unit, (3) providing incentives in atmosphere and other considerations for efficient service and (4) encouraging all employees to improve their cultural status.

Securing qualified personnel depends upon the economic status of public school employees relative to that of similar employees in other endeavors. However, economic rewards must be accompanied by professional selection, merit appointments and service appraised by qualified experts. A reasonable balance must be maintained among the caliber of personnel, class size and pupil-teacher ratio. A broad program and small classes purchased by employing mediocre personnel may be wasteful. On the other hand, highly qualified personnel with extremely large classes may not yield optimum returns.

Obviously, prudence and economy in daily operations are basic to defensible spending. Funds and prop-

Shall We Teach WAR?

EARL F. SYKES

Director of Personnel, Pennsylvania State Teachers College, West Chester

WAR has produced new personnel problems and increased the intensity of those already existent. Although fine personnel programs are being evolved for the armed forces, little has been done for the civilian or industrial worker.

Educators are at odds as to what schools can and should do. Some maintain that traditional programs should continue, teaching things vital both in war and in peace. Others would completely reorganize the school program, stressing preparation for armed and industrial service.

Without doubt, some responsibilities should be definitely assigned to the schools. The efficiency with which such responsibilities are fulfilled will depend largely upon school personnel programs.

Youths must be helped to understand the things for which we are fighting. An appreciation of the international implications of Christianity and democracy is essential if a lasting peace is to result. The extent to which a people appreciate and understand values to be fought for determines, to a large degree, the effectiveness with which they work and fight.

Boys and girls need help in answering the question, "How can I best contribute to the war effort?" This involves the organization of courses to prepare pupils for proficient service in the fields for which they are best suited.

Cooperation with the War Manpower Commission and the personnel divisions of various industries is necessary for such preparation must be based on demand. In addition, school programs should be modified

to permit both pupils and teachers to contribute to the war effort as needed. Such planning would allow for work crews, for example, which could be called upon in case of emergency, as when crops must be harvested but labor is unavailable.

Schools must help young people to take the long view of things, both socially and vocationally. Today pupils are wondering whether to continue education and professional preparation, take some temporary job in a war industry or both. In answer, educators must provide a vision of a future that is worth working for, emphasizing the part young people will play in such a future.

Young people are naturally idealistic and seek to establish a system of beliefs and values with which to guide their living and their understanding of the behavior of others. War is disillusioning; it brings into limelight the contradictions and inconsistencies in life and human behavior. We must offer our young people a helping hand, that their efforts to evolve a philosophy will not be in vain.

A study of war, as such, should be as much a part of the curriculum as is English, science or history. Whether such a study should be integrated with other courses or made the integrating center itself is a matter of educational philosophy and psychology. But certainly the task should be done.

We cannot prevent youth from being faced with the realities and contradictions of war—or life and death—by hiding our heads. Instead, we must help them integrate themselves and their ideals with realities.

erty must be protected from loss, destruction, damage, waste, theft or misuse; funds must be spent legally and for the appropriated purposes.

Economy means that purposes must be achieved with the minimum outlay of personnel and materials. It should be realized that economy

is not synonymous with low expenditures. There may be more waste in low expenditures than in high expenditures when purposes or results are considered. Economy means using the optimum combinations of personnel and materials to attain the agreed-upon ends.

SCHOOL OPINION POLL

THE NATION'S SCHOOLS

EACH MONTH A QUESTIONNAIRE IS MAILED TO
500 REPRESENTATIVE SCHOOL ADMINISTRATORS

Should Schools Expand Up and Down?

"PUBLIC schools are not the place for preprimary children," may be said to be the preponderant opinion of present day American school administrators.

Contrariwise, a substantial majority of administrators favor including the 13th and 14th years in the secondary educational program. Returns on this month's poll totaled 27 per cent.

For those men who answered "No" to both questions it's money that talks! An Illinois executive speaks for many others in saying: "We are unable to finance our present setup without taking on an additional obligation."

Indicative of those opposed to extensions upward and downward is this comment from Ohio: "Our challenge is to do a better job with the group now under our charge."

And from New York: "We should not spread our resources too thin. Get better teachers and better equipment for the job at hand."

Preprimary Work Opposed

In answer to the first question, "Should public school systems extend their programs to include preprimary children (3 and 4 year olds)?" this reaction comes from Colorado: "The home is by far the best place for 3 and 4 year olds. It is only in cities where many mothers are working in industries that I would recommend a public school program for such youngsters."

"Parental influence should have more to contribute to the life of the

child than the school could ever give. To go too low in our formal education would destroy the function as well as the reason for the existence of the home." This from an administrator in California.

Again from the West—Washington: "Three or 4 year olds should not be institutionalized except as a war emergency. There is no substitute for home training during this period."

One of the affirmative answers to Question 1 comes from Minnesota. "We had a W.P.A. nursery school here for a number of years and it gave the 3 and 4 year olds valuable training for kindergarten."

Junior College Welcomed

Favorable to the more generally acceptable plan of including the 13th and 14th years in secondary education is this reply from Montana: "A greater number of boys and girls would have an opportunity to complete the first two years of college and would be better prepared for life."

A Maine executive states: "The better the educational program the

more secure is democracy itself."

A Pennsylvania superintendent opposed to this educational extension says: "Unless the program of studies is so changed that many more than the academically minded can benefit, I do not believe that this extension is advisable."

From Georgia comes this analysis: "A large percentage of the school population is not of the mental caliber to profit materially from academic instruction. Schools of manual arts and crafts would be needed for many such pupils."

Here is a conclusive statement from the Midwest. "The public schools are coming more and more to assume responsibility for the promotion of adult citizenship. Hence, I endorse any plan that would enable the schools to get pupils at a younger age and keep them beyond high school."

A Pennsylvania schoolman speaks, in summary: "I do not believe that these extensions of public education should be made compulsory for either group. However, the opportunity should be extended to every person."

QUESTIONS ASKED AND OPINIONS EXPRESSED

1 Should public school systems extend their programs to include preprimary children (3 and 4 year olds)?

Yes	23%
No	73
Uncertain	4
No Answer	0

Total100%

2 Should public education systems extend their programs to include the 13th and 14th grades?

Yes	59.0%
No	30.0
Uncertain	10.2
No Answer	0.8

Total100.0%

How's Your "Outside Reading"?

HARL R. DOUGLASS

Director, College of Education, University of Colorado

THE children in school today will be the first generation to face in a direct and unavoidable manner the problem of living as neighbors with all the peoples of the world—of Asia, Europe, Africa and South America.

This will be the first generation to face the question of reconciling our interests and activities with those of the awakening giants in Asia—China with 450,000,000, Japan with 100,000,000 and India and Southeast Asia with 550,000,000 human beings.

Whether we will it or not, the days of rugged isolationism are over and a nation that refuses to face the fact is selling its future for a very temporary comfort.

International problems of reconstruction will be greater after the war than any we have ever faced. A nation cannot release 20,000,000 or 30,000,000 men and women from pay rolls in the armed services or related factories without capsizing the economic structure of a country which has not only failed to plan for such a phenomenon but in which the people are far more able to identify sound economic leadership than they were in the practice depression we had in the thirties.

Don't Neglect Long-Term Thinking

The average man and woman need to be educated to the great importance of these things to them. The correct solution of simple questions determines not only the degree of our prosperity but whether or not millions of American youths will die on future battle fields. They seem to the uneducated mind so vague, so far away, that their importance is not grasped. Throughout the school period special pains must be taken to develop minds that will understand these problems, conditions and dangers.

The complete absorption of school administrators with immediate contributions to the war effort to the exclusion of their preparation for the long run justifies the suspicion that

the schoolman is not doing much long-term thinking. It is not that materials for widening the scope of his vision, his foresightedness and his orientation are not readily available. They abound. As examples, the following are books that the educational statesman and informed leader is reading:

Agar, Herbert: *Time for Greatness*, Boston, Little, Brown & Company, 1942, \$2.50.

Beard, Charles A., and Mary R.: *The American Spirit*, New York, The Macmillan Company, \$5.

Carr, Edward H.: *Conditions for Peace*, New York, The Macmillan Company, 1942, \$3.50.

Chase, Stuart: *The Road We Are Traveling*, New York, The Twentieth Century Fund, Inc., \$1.

Hoover, Herbert, and Gibson, Hugh: *The Problems of Lasting Peace*, Garden City, N. Y., Doubleday, Doran & Company, Inc., 1942, \$2.

Jordan, Henry P.: *Problems of Post War Reconstruction*, Washington, D. C., American Council on Public Affairs, \$3.25.

Kohn, Hans: *World Order in Historical Perspective*, Cambridge, Mass., Harvard University Press, \$3.

Lynd, Robert S.: *Knowledge for What*, Princeton, N. J., Princeton University Press, \$3.

Rauschenbush, Hoan: *New York, Foreign Policy Association, Inc.*, 25 cents.

Sevens, Harvard and Tufts: *An Economic Program of the United States*, New York, Vanguard Press, Inc., \$1.

Sorokin, Pitrim: *Man and Society in Calamity*, New York, E. P. Dutton & Company, \$3.

Wells, H. G.: *The Fate of Man*, New York, The Macmillan Company, \$2.50.

Significant Novels

For those who like to have their books sugar-coated the following novels are recommended:

Lothar, Ernest: *Beneath Another Sun*, New York, Doubleday, Doran & Company, Inc., 1943, \$2.75.

Sinclair, Upton: *Wide Is the Gate*, New York, Viking Press, 1942, \$3.

Steinbeck, John: *The Grapes of Wrath*, New York, The Viking Press, Inc., 1939, \$2.75; *The Moon is Down*, op. cit., 1942, \$2.

Williams, Ben Ames: *Times of Peace*, Boston, Houghton Mifflin Company, 1942, \$2.75.

These Pamphlets Valuable

Among the pamphlets and small books is a series, "Headline Books," published by the Foreign Policy Association, Inc., 22 East Thirty-Eighth Street, New York City. These are 25 cents each and include "Challenge to the Americas," "The Challenge of a Champion World," "The Story of Europe's Minorities," "The United Nations in War and Peace," "The Story of Economic Warfare," "Russia at War" and "Overseas America."

The "World Affairs Pamphlets," published by the same association, offer titles such as "Showdown in the Orient," "Why Europe Went to War" and "America Looks Ahead."

"Pan American Union," "American City Series" and "American Union Series," published by the Pan American Union, Washington, D. C., are gratis or of low cost.

The Carnegie Endowment for International Peace, 405 West One Hundred and Seventeenth Street, New York City, publishes such pamphlets as "Foundation for the Peace," by Henry Wallace, "Toward a Durable Peace," by Eugene Staley and "Planning the War for Peace," by Helen Hills.

"The United States in a New World" is a series of reports prepared by the editors of *Fortune*.

In addition, the National Resources Planning Board, Washington, D. C., has published its report which deals with postwar plan and program, war-time planning for war and postwar security and work.

The "American in a World at War Series," published by the Oxford University Press, New York

City, sells at 10 cents each. "America Faces Japan," "German Geopolitics" and "Building Our Fences in South America" are some titles.

"University of Chicago Round Table Discussions" are 10 cents each, e.g. "India" and "Little Business, What Now?"

"Democracy in Action Pamphlets," published by the Office of Government Reports, Washington, D. C., offer "The New World," "U. S., Arsenal for Food" and "Censorship."

Among the journals thoughtful educational leaders are reading regularly are:

American Mercury (\$3), New York, American Mercury, Inc.
Current History (\$2), New York, Events Publishing Company, Inc.
New Republic (\$5), New York, Editorial Publications, Inc.

Foreign Policy Association Bulletin (weekly, \$2 a year) and the "Foreign Policy Headline Pamphlets" (monthly, \$3 a year), New York, The Foreign Policy Association, Inc.
Fortune (monthly, \$10 a year to educators), New York, Time, Inc. (Also *Fortune's* supplements.)

Frontiers of Democracy (\$2.50) and *Progressive Education* (\$3), New York, The Progressive Education Association.

Reader's Digest (\$2), Pleasantville, N. Y., Reader's Digest Association.
Survey Graphic (\$3.50), New York, Survey Associated, Inc.

United States News (weekly, \$4 a year), Washington, D. C.

Some of these periodicals have a very conservative bias, such as the *United States News*, the *Reader's Digest* and the *American Mercury*. Others are definitely progressive—the *Frontiers of Democracy*, *Survey*

Graphic, *Progressive Education*, the *New Republic* and the *Nation*. Some take the "middle of the road." One should read regularly at least one periodical in each classification.

It is not enough that schoolmen wait until some national organization digests all of these things and then publishes a 16 page bulletin, a condensed statement of the principal points on which its members can agree. This is very useful, particularly for the little man, who should never have been a school administrator anyway and who holds a job by default as the result of low salaries for school administrators and the lack of vision on the part of employing school boards.

If You're to Be Real Leader

For the real leader of teachers and committees, the true professional school administrator, there is no "royal" road to the orientation in world and national affairs that he demands. No road, however, is more keenly satisfying once past the elementary stages than that which lies through the choicest, most reliable and rich literature that is available.

If the school man of today (1) does not have at least a superficial acquaintance, for example, with what such persons as Wendell L. Willkie, Henry Wallace, Herbert Hoover, Raymond Clapper, Walter Lippmann and Harold E. Stassen think of the problems of world adjustment and the place of the United States in it; (2) has not read treatments of economic problems and conditions in the postwar period and indicated necessary preplanning of Charles E. Wilson of the General Electric Company, Alvin H. Hansen of Harvard or Stuart Chase; (3) has not read a number of things concerning the education and rehabilitation of returned soldiers; (4) has not read considerably on the probable and possible effects of the war on health, mental health and juvenile delinquency; (5) has not done some first-class reading on the economic relations of the United States with South America and the rest of the world, then he is drifting inevitably toward the status of a man who does not understand the world for which he is educating young people. Nor does he understand the problems of his country, the bulwark of which public education is thought to be.

Iowa Reports Progress on Code

W. HENRY GALBRETH

Assistant Editor, Midland Schools

IOWA'S school code revision program will be continued for another two year period. The recent session of the legislature provided for the establishment of a new seven member commission, two members to be appointed by the speaker of the house, two members by the president of the senate and three members by the governor.

The appointments have now been completed and are as follows: Rep. A. L. Doud, Douds; Rep. B. S. Moyle, Maquoketa; Sen. G. W. Hunt, Guttenberg; Sen. Robert Keir, Spencer; Supt. N. D. McCombs, Des Moines public schools; Mrs. Raymond B. Sayre, Iowa Farm Bureau Federation, Ackworth, and Henry K. Peterson, attorney, Council Bluffs.

The basis of the work of the new group will be the report known as House File 300, filed by the preceding code commission. This bill passed the house late in the 1943 session of the legislature but did not reach the senate calendar. The records and data used in compiling it will also be available in the new study.

The following areas were included as chapters in the previous report.

In general, they represent the fields in which major school legislation is needed in Iowa.

1. Scope, organization and definitions.
2. State plan for education.
3. Functions of the state educational agencies.
4. The organization and administration of school districts.
5. Personnel.
6. Pupil welfare and control.
7. Instruction.
8. Transportation.
9. The school plant.
10. Finance and taxation.

Major provisions in the bill included the establishment of a state board of public instruction, increased state support of public education, reorganization of school districts, equalization of educational opportunity, higher certification standards, a teacher tenure law and a teacher annuity system.

The new commission is to make its report to the governor by July 1, 1944. Copies of the report, together with drafts of proposed bills, are to be mailed to elected members of the Fifty-First General Assembly on or before Nov. 10, 1944.



P H Y S I C A L F I T N E S S

What Constitutes PHYSICAL FITNESS?

JAY B. NASH

Chairman, Department of Physical
Education and Health
New York University

AGREEMENTS with regard to the needs of fighting men have been reached by representatives of our armed forces, physicians, physiologists, nutritionists, nurses and educators in numerous conferences during the past year.

Muscular strength in the arm, shoulder and upper back muscles is needed in order to (1) lift, push and pull heavy objects, (2) climb ropes, (3) carry mortar, (4) pass ammunition, (5) carry knapsacks and get in and out of tanks and airplanes.

Endurance, the ability to stick to a task without undue fatigue, is needed on the march, for standing watch and in the final days of a military thrust for an objective. This endurance is as necessary in civilian activities, shops, factories and farms as in armed service.

Agility or flexibility is necessary in order to handle the body quickly and efficiently in the maneuvers on front lines, on the assembly lines and in the streets.

Speed and explosive power are essential for meeting such emergencies as running to a plane, swimming to a safety raft, pulling a companion out of the water and carrying out an objective.

Emotional Push Needed

Without an *emotional urge*, the things that an individual is able to do under ordinary circumstances are well below his potential abilities. Under the impetus of strong emotions, spirit or effort reaches a "psychological level" and men do the apparently impossible. The principle of motivation applies not only to a man in danger but also to a person interested in turning out tanks, planes and ammunition or to the Red Cross volunteer. We need an emotional push for physical fitness.

The same good physical condition necessary for the men in armed serv-

What men are in their prime depends largely on training procedures given in their teens

ice would be a distinct asset to every citizen. Efficient bodily performance is basic to most endeavors. No society, no matter how mechanical, can afford to neglect the physical training of its people.

Follow the Four Laws

There is general agreement upon the basic principles involved in building physical fitness. The term "building" is used deliberately because physical fitness can be built. Some general principles follow:

The law of use applies to the normal heart, the circulatory system and to the muscles. Therefore, games and sports involving running, vigorous swimming or conditioning exercises in climbing, lifting, pushing, pulling and jumping all build body power.

The law of time dictates that to develop physical fitness time is needed. The average man of military age requires two hours a day for conditioning purposes. For junior and senior high school pupils at least an hour of carefully organized exercise, plus from one hour to one hour and a half of supplementary exercise, is necessary. Small children will develop well in from three to four hours a day in the out-of-doors.

According to *the law of diminishing returns*, the basis of physical fitness is laid between the ages of 6

and 16. Between 16 and 20 years of age this power may be maintained with less exercise but it must not be neglected. The heights of organic power are reached in the twenties and from then on there is a gradual decline. The period of greatest results is the teens.

The law of interest shows that those activities about which people are enthusiastic, particularly those involving long periods of endurance, are the ones in which they are most likely to build organic power.

Children and persons over 40 years of age should have frequent medical examinations to determine whether or not best results are being attained from an exercise period. Certain danger signals indicate that all is not well. Those who become unduly fatigued or have shortness of breath should have more frequent check-ups.

Exercise Isn't All

Physical fitness is based upon adequate nutrition. A diet should include simple things, such as whole foods (especially cereals), adequate fruit juices, milk and eggs, meats (especially of the liver and sweetbread type) and vegetables (not overcooked). Refined, preserved and highly sweetened foods are unnecessary.

Adequate sleep means from nine to nine and a half hours a night for children, eight and a half for the high school ages and eight for everyone—with frequent periods of relaxation to pursue a hobby, work in the garden or enjoy other activities which will get a person out into the sunshine.

With good medical and dental advice, adequate nutrition and simple living habits, physical fitness is attained through the *law of use*, meaning any kind of good vigorous outdoor exercise.



CROSS-COUNTRY FOOTBALL

On a STATE-WIDE SCALE

THE purpose of the Minnesota Physical Fitness and Recreation Office is to stimulate participation in physical fitness and recreative activities on the part of all residents (men and women, boys and girls) with particular emphasis placed upon needs created by the war.

However, the future and more permanent needs are also given attention in the organization of the program. Considerable emphasis is given to permanent planning for physical fitness and recreation in local communities.

The state office of physical fitness and recreation is a unit of the Minnesota Office of Civilian Defense. It was established by order of Governor Harold E. Stassen in April 1942.

The state director acts as chairman of the state physical fitness and recreation advisory committee of the citizens' service corps, State Defense Council. The committee is comprised of representatives of various agencies and services and, in addition, professional men and women active in physical education and recreation. Liaison and cooperative

relationships with committees representing other services are established through occasional meetings of the chairmen of the various committees in the citizens' service corps.

The state director has been provided the services of a full-time secretary, two full-time field representatives and a part-time recreation consultant. Through the cooperation of the department of physical education and athletics, the office has been located at the University of Minnesota.

Specific war-time objectives of the program are:

1. To condition men and women for service in the armed forces.
2. To increase the total fitness of farm workers and men and women in war industries, including those on swing and graveyard shifts.
3. To increase the physical fitness of civilian protective groups.
4. To increase the total fitness of out-of-school youth and business men

and women for greater community war service.

5. To provide community services to servicemen on leave.

6. To organize groups for service to men and women in military service.

7. To promote the expansion of existing community recreation programs and the establishment of such programs where none exists to relieve tensions of life during the war.

8. To provide constructive activities for the leisure hours of people whose lives have been altered by restrictions necessary during war time.

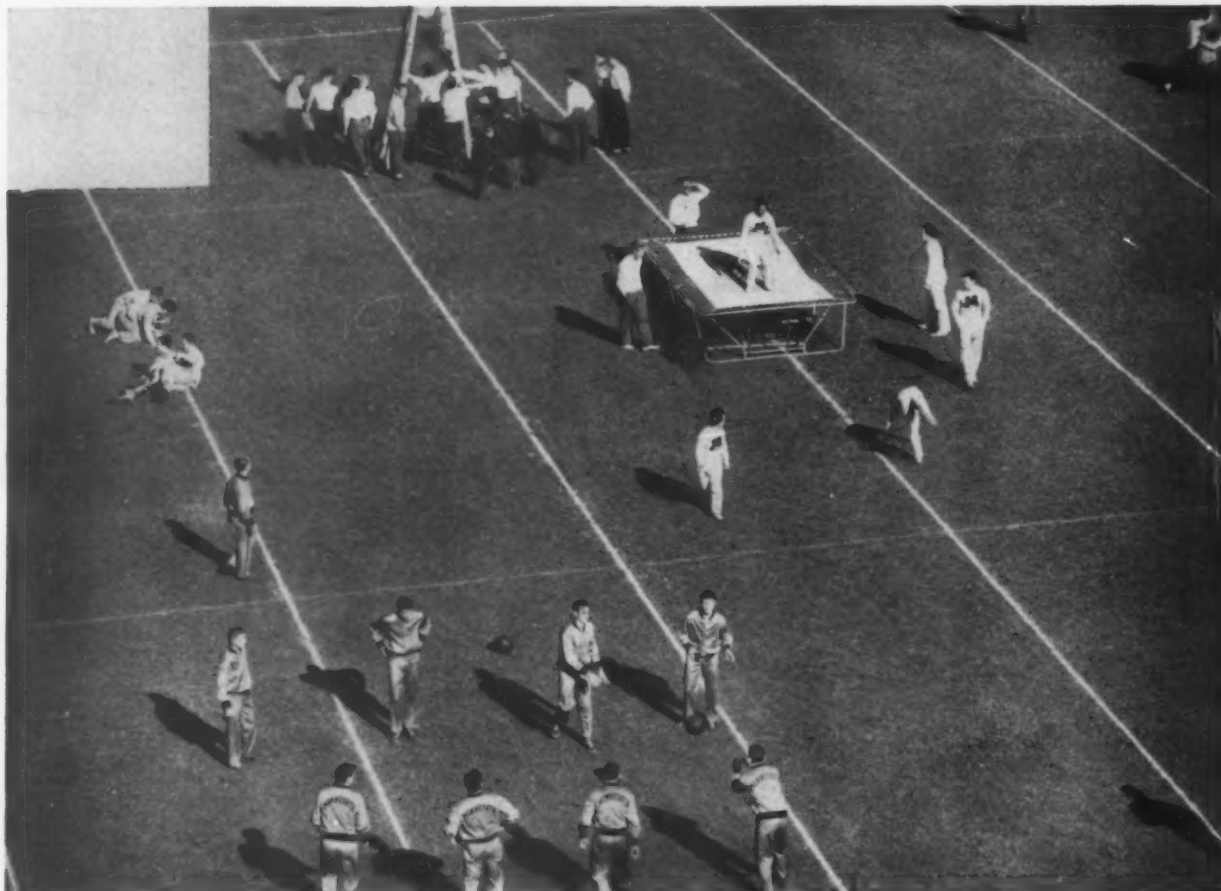
9. To encourage community planning for recreation.

10. To cooperate with state departments and other state defense committees, federal offices and national organizations.

A press and radio board meets upon call with the state director to counsel in regard to various promotional campaigns. Cooperation has

CARL L. NORDLY

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Associate Professor of Physical Education, University of Minnesota



Scene from the Physical Fitness Demonstration, pre-game feature at a conference football game last fall. Twenty sports took place simultaneously.

developed between the physical fitness and recreation office and the newspapers and radios through a council of organization representatives.

The slogan, "Do Your Bit—Be Physically Fit," was selected by the press and radio board and streamers carrying this slogan have been distributed to industrial plants, stores, schools, colleges, private agencies and settlement houses. In addition, the slogan has appeared frequently on programs of demonstrations and exhibitions and on bulletin boards. Newspapers have used it as a column lead for articles related to local programs.

Fifteen minute radio programs have been carried over the state network and copies of broadcast script have been sent to local chairmen and directors to be used at their discretion.

Upon request the president of the Minnesota State High School Coaches Association appointed a committee to cooperate with the office of physical fitness and recreation in developing the following platform:

"As members of the Minnesota State High School Coaches Association, we are cognizant of the im-

mediate need for the development and maintenance of physical fitness and morale. Therefore, we subscribe to the following platform in an effort to make our maximum contribution to the war effort.

Points in State Platform

"1. We will not sacrifice the physical fitness of a boy in an effort to win an athletic contest by playing him when he is injured or in ill health.

"2. We will encourage the participation of more boys in inter-scholastic contests.

"3. We will cooperate with physical education teachers and intramural sports directors to the end that more pupils will have greater opportunities to use the facilities.

"4. We will encourage adequate medical supervision of participants in athletic contests.

"5. We will encourage correction of any defects discovered in medical and dental examinations of nonathletes as well as athletes.

"6. We will encourage the development of healthful habits, such as obtaining adequate rest and maintaining sound nutritional status.

"7. We will stimulate community organization for physical fitness for a program to meet the needs of all residents in the community.

"8. We will volunteer a minimum of four hours each week to promote physical fitness in our respective communities.

"9. We will be examples for youth by maintaining excellent health.

"10. We will make known to youth the meaning of physical fitness and develop in them a felt need for it to the end that they will realize it is patriotic to maintain physical fitness."

The physical fitness and recreation advisory committee selected a group of representatives to assist in the promotion of the program in communities throughout the state. All bulletins developed in the office have been sent to the physical fitness representatives and the coaches' committee. Both groups have assisted in stimulating action in local communities throughout the state.

All defense council chairmen have been requested to appoint physical fitness and recreation committee chairmen. Suggestions for commu-

nity organization for physical fitness and recreation have been sent to them. They were encouraged to make local committees widely representative of all groups in the community. Public and private agencies and organizations interested in leisure time activities usually are represented.

Who Takes Part

Suggestions for membership include schools, the recreation department, the park board, various professional groups in health, physical education and recreation, the press and radio, private social agencies, youth groups, service clubs, labor groups, management, the ministerial association and other church groups and women's clubs. To minimize the danger of duplication of committee effort, recognition of existing recreation planning committees, boards or commissions was suggested in the organization of physical fitness and recreation committees.

Efforts have been made to utilize as many community resources as possible. School buildings, community centers, armories, park facilities, playgrounds, swimming beaches and athletic fields are used. In addition, the facilities of private agencies in many instances are frequently used.

Financial assistance was made available during the last indoor sea-

son for the use of armories and public schools in the program. This amounted to \$7 for heat, light, janitor and supervision costs for each night that 50 or more out-of-school youths and adults participated for a minimum of one hour.

Leadership for the program has been one of the crucial problems. High school pupils have been responsive in volunteering to assist in the program under the direction of technically qualified personnel. Persons with abilities in the various phases of recreation and other activities designed to promote physical fitness have been encouraged to volunteer for community service through the radio, newspapers, bulletins and word of mouth.

Mass Demonstration at Game

To give impetus to the program a physical fitness and recreation conference and demonstration was held on the day of the Minnesota-Northwestern football game last fall. Prior to the game 33 organizations participated in a mass demonstration, including participation in 20 recreative sports simultaneously. Between the halves 500 persons engaged in a mass calisthenic drill to music. In addition, an intercollegiate obstacle race was staged.

Recently, a conference on physical fitness through recreation for indus-

trial workers was called by Governor Edward J. Thye and sponsored by the Office of Physical Fitness and Recreation.

A series of recreation institutes was scheduled throughout the state for early June with representatives of the Office of Physical Fitness and Recreation and the state department of education serving as instructors. Last fall a field representative from this office served as an instructor at several physical fitness conferences on the Victory Corps Program sponsored by the state department of education.

In addition, four prints of a film, "Do Your Bit—Be Physically Fit," are available to public and private agencies and other organizations in the state for transportation charges. The film is colored and requires approximately thirty minutes for a showing. It depicts a wide range of activities with titles designed to stimulate local action.

Bulletins dealing with various subjects, such as suggestions for local programs, procedures for the organization of physical fitness clubs, service to service men and commando alertness exercises, have been sent to all leaders of the program. Too, several agencies participated in the development of bulletins on a learn-to-swim campaign. The Minnesota Professional Golfers' Association cooperated in a golf instruction program. The formation of hiking and walking clubs was stimulated by means of a bulletin of suggestions for organization and planning. A bulletin on ice skating explained the values of skating as a physical fitness and recreative activity and included suggestions for preparation, construction and maintenance of ice surfaces.

Such bulletins serve a twofold purpose: first, to stimulate action in localities where little community effort has taken place and, second, to afford an exchange of successful program features.

The office of physical fitness and recreation has operated on these principles: (1) that programs must develop from within the community if they are to be permanent and (2) that communities differ just as individuals do. Therefore, the function of the office has been to assist various organizations and agencies, wherever and whenever possible, to inaugurate programs where none exists and to expand those already in operation.



Portland Public Schools

Boys and girls, as well as high school youths and adults, come under the plan.

Quick Sketch of a CITY-WIDE PLAN

JOHN S. HERRON

Superintendent of Schools, Newark, N. J.

ACCENT on physical fitness in the schools of Newark, N. J., is not an outcome of either the pre-war or war program of the nation.

However, with the advent of the national defense program and the passing of the Selective Service Act, the physical education curriculum of both senior and junior high schools has been modified to lay greater stress upon formal body-building exercises.

In order to present a clear but concise picture of our present physical education program, the following explanation is set forth:

HIGH SCHOOL PROGRAM

Time Allotment. Both the senior and junior high schools have increased the time allotment for boys in physical education, particularly for fourth-year pupils. Two high schools have instituted double periods of 90 minutes to permit boys to take showers at the close of the double period. In schools in which scheduling did not allow for double periods, additional gymnasium periods have been assigned to senior boys.

Change of Emphasis. The Victory Corps program has resulted in a revitalization of physical education. All high schools carry on commando exercises, both indoors and outdoors. Boxing, wrestling and obstacle relays in which pupils have to climb, balance, travel overhead, crawl and jump have come into prominence. Greater emphasis has been placed on running, the older boys in most classes doing from 7/10 mile to 1½ miles in daily workouts. Intramurals are conducted in several of the high schools.

It is a matter of common knowledge that most high school boys lack development in their upper arm and shoulder muscles. Formal gymnas-

tic exercises have been planned to develop these muscles in boys showing special need.

Commando Tactics. Senior high school playfields have been equipped with the recognized commando apparatus and the program has been conducted in the open throughout the winter, except in extremely inclement weather. In two instances the course for commando tactics has been laid out in near-by public parks, with the permission of the Essex County park commission. The program is a popular one with pupils.

Tests and Measurements. From grammar school days, all pupils have been interested in their physical growth and development because of standard physical tests taken annually. Two high schools have utilized test and measurement programs this year in the development of ability to climb, vault, chin, jump and hang. Each boy keeps his own record of improvement.

Another school program introduced weekly hikes, the classes walking from 2 to 3 miles each time out. Because of curtailment in bus service, hundreds of pupils have joined in the "walk to school" campaign.

In summary, the following are the activities that characterize the present over-all picture of the physical fitness program for boys in the senior high schools of the city: boxing, wrestling, running, climbing, hanging, apparatus, obstacle relays, antagonistic exercises, showers, tests and measurements, jujitsu, fencing and hiking.

Physical Examination. All pupils who have come into the vigorous program for high school boys have been individually examined by the school physicians. Those having fundamental physical weakness have been excluded or restricted, according to the examining physicians' advice.

Program for Girls. The high school physical education program in apparatus, posture, running, dancing, rhythms and games for girls has not been materially affected. Stress has been laid on the patriotic duty of all to maintain good health.

GRADE SCHOOL PROGRAM

No revolutionary changes have been introduced into the physical education curriculum of the elementary schools. However, the tempo has been increased and greater interest in physical fitness is apparent. On the elementary level, Newark has always had a program based upon exercises in the use of apparatus, climbing, hanging and jumping to develop the abdominal muscles and to increase the strength of the shoulder girdle.

Formal work has always been balanced by the play or sports part of the program. This year more than 80 per cent of the entire elementary school enrollment were trained in running and jumping for competition in the spring meets which are held each year.

CITY RECREATION PROGRAM

The city's recreation program is conducted by the board of education in the school plants. At the close of the school day the recreation department takes over the school buildings and playgrounds with a staff of its own teachers. This program continues until 9 p.m. and, on occasion, until 11 p.m., providing recreation and sports of all kinds for young and old. Centers are also open on Saturdays.

Gymnasiums are open to children after school and evenings for intramural games. In the evening, hundreds of young men and women from industry and business engage in league tournaments in basketball, volley ball and soft ball or join in classes such as dancing. The war situation has increased, rather than decreased, the call for these forms of recreation. Altogether 33 recreation centers and playgrounds are operated by the Newark board of education throughout the year.

SUMMER PROGRAM

The war-time summer program of 1942 involved the operation of 44 playgrounds and recreation schools. These will be continued during the summer of 1943. This year all playground gates are being opened at 9 a.m. Teachers take over direction of the program at 10 a.m., the closing hour being 9 p.m. For this expanded service, the regular staff of the recreation department has been augmented by the addition of 125 selected teachers.

The board of education has also assumed supervision of the recreation program conducted in the seven housing projects of the Newark Housing Authority.

SCHOOL LUNCH PROGRAM

The board is operating elementary school lunch programs this summer, as it did last summer. These programs propose to maintain nutritional health among the children.

FOOD for FITNESS

interests the boys, too

OLA DAY RUSH

Head of Home Economics Department, Public Schools of District of Columbia

AGROWING interest in nutrition among teachers, pupils and parents in the District of Columbia led the board of education to appoint a nutrition committee in 1941. A body of 21 members, the group was assigned to study the nutrition of school children in terms of milk programs, school cafeterias, school

lunches and courses in home economics and health instruction.

This committee was made up of school officials, members of the departments of physical education and home economics from elementary schools, junior, vocational and senior high schools, and teachers' colleges. It was felt that the Washington

PREPARATION FOR POINT RATIONING: Boys in this McKinley high school nutrition class consider effects of "points" on balanced diets.



Official O.W.I. photo by Palmer

schools with their excellent facilities and their nearness to federal departments and their existing aids had the opportunity of developing an outstanding health program.

Accordingly, the committee worked out a "ten point program," planned to stimulate interest and develop a basic pattern for school and community participation. This nutrition emphasis at all grade levels and the community interest engendered gave both school and civic groups a greater interest in the war-time problems of food and nutrition.

Health and physical education is now a required five-period subject each semester for all senior high school pupils. Under the direct supervision of the department of health and physical education, the program coordinates closely with all other departments contributing to health knowledge.

Sequence of Courses Taught

Three periods a week are given over to physical activities and two to some phase of health instruction. Units in basic nutrition and home nursing are taught by the department of home economics. Health instruction is given to segregated classes. The Washington schools are organized on a 6-3-3 basis and six semesters of such instruction are provided, taught in the following sequence:

- 10A: Functional anatomy and physiology (boys and girls), taught by the health and physical education department.
- 10B: Basic nutrition (boys and girls), taught by the home economics department.
- 11A: Personal appearance; rest and relaxation (boys and girls), taught by the health and physical education department.
- 11B: First aid (boys and girls), taught by the health and physical education department.
- 12A: Home nursing (girls only), taught by the home economics department; safety (boys only), taught by the health and physical education department.
- 12B: Mental health and social relations (boys and girls), taught by

Well-planned lunches in the school cafeteria help in the nutrition program. The pupils are encouraged to select the plate luncheons.



the health and physical education and the home economics departments.

The course in basic nutrition, given to all 10B pupils, reaches approximately 3000 pupils each semester. The work is practical and as free from academic routine as it can be made.

A comprehensive pretest, designed to challenge interest and general knowledge, is used as an introduction. This is in two parts—the first dealing with general factual statements, the second giving a list of true-false questions based on popular nutrition beliefs and fallacies. Surprisingly, a large percentage of pupils check as true such statements as "drinking water with meals causes overweight," "fish is a brain food," "onions cure a cold," "fasting will rid the body of poisons."

This pretest and the discussion take from four to six lessons and help the teacher to develop an effective approach. This is always different for boys and girls. Boys are interested in the Army approach, of course. Analysis of Army rations and a discussion of why such foods were selected, what they do and the amounts required are popular and effective.

The Army pattern for necessary variety is a simple one—a protective diet of whole grain cereals, adequate amounts of dairy products, fruits, vegetables, meat and eggs. In class work this protective diet is used as a check against the foods each pupil actually eats and serves as a pointer toward necessary changes.

Boys are more curious than girls but usually less imaginative and original. Girls like to develop quiz-



Down the cafeteria line at Roosevelt High School, Washington, D. C. U. S. Office of Education photograph.

question lessons and do well in working out radio skits and programs. Boys show much less interest in these but respond readily to analytical work, are excellent in making quantitative graphs and in working out mathematical proportions for quantity menus.

Making up menus does not appeal to boys but they like to pull a prepared menu apart and analyze it for its nutritive elements. Many boys work after school in grocery stores and are good at marketing problems and in discussions on food rationing.

Teachers have used many interesting devices for these classes in order to show that nutrition principles apply to everyday problems of food selection and preparation and have direct bearing on good health and success in daily living. For example, instead of having boys write up their

own menus, the teacher asks them to look through advertisements of food products and bring to class some of the menus prepared by the various food companies for the use of their products. These are analyzed in class to determine whether they meet the nutritional requirements for the particular age group and what changes, if any, should be made.

Another teacher obtains a group of printed menus from a near-by restaurant. Two menus, one for breakfast and one for lunch, are written on the board, each lacking necessary foods for a good daily meal plan. Each boy is given one of the menu cards and from that he selects a dinner which, according to the nutrition yardstick, would complete the pattern started in the other two meals and provide a well-rounded adequate food supply for

the day. Food costs and rationing problems are an important part of this class discussion and, from the practical viewpoint, an added value to the device.

Problems of industrial feeding interest the boys. Visits are made to government cafeterias, where thousands of war workers are fed daily, to observe the kinds of food served, costs, rationing adjustments and, most of all, the nutritional helps of planned plate lunches and especially priced meals. Often these boys bring back recommendations for use in their own school cafeterias.

Each Pupil Keeps Daily Chart

A daily food chart listing the foods eaten in a twenty-four hour period is kept by each pupil. These are analyzed in class to determine how well individual needs are being met. They have proved an effective "fortune telling" method to point out, for example, the results of a continued diet low in vitamin A and how it might affect the chances of a boy who wants to try for the Army Air Corps.

Pupils are encouraged to put into practice in the school cafeterias and in their own homes the information they learn in class. In the school cafeterias they are helped in the selection of foods that will make up nourishing meals and that will also supplement the foods eaten at home.

This semester a new food study project is being developed whereby the food habits and home participation in food activities of each boy and girl are being evaluated. When the project is completed and summarized, it will offer valuable material for next year's work.

While the whole health education program in the District of Columbia is still in a trial stage the implications are strong enough to indicate that it is basically sound and that, if health and physical fitness are to be recognized goals for the individual, educators must be willing to give such subjects as nutrition and home nursing, which are vitally reflected in family health, a respected place in the school curriculum as a requirement for all boys and girls.

Health • Safety • Character Training
are by-products of Gadsden's program

On the High School Front

WHEN it became evident that most of the pupils who are now in high school would be called upon to help in the war effort, the high school in Gadsden, Ala., inaugurated a physical and health development program to help fit the boys and girls to meet the demands made upon them.

This school is particularly fortunate in having a modern and complete physical education plant, which was erected three years ago at a cost of \$229,000. This includes two gymnasiums, one for boys and one for girls, and every facility for physical development and health training. These standard sized gymnasiums, built of natural rock, are equipped with basketball courts, 20 foot ropes, ladders, mats, horizontal bars, an electric score board and a piano. Both boys and girls are furnished with an ample supply of game equipment for volleyball, basketball, badminton, football and ping-pong. Seating arrangements for 700 people are provided in the boys' gymnasium.

Adjoining the gymnasiums is the football stadium which seats 9000 people. A cinder track, one fifth mile in length, is provided and under the bleachers on one side of the stadium are four standard cement bowling alleys and two shuffleboard courts. At one end of the football grounds is a large barbecue pit which is used by pupils and faculty for social activities.

Has Three-Purpose Program

The Gadsden physical education program has three purposes: (1) to improve physically, mentally and morally those pupils who may see active service with our armed forces; (2) to give all pupils the opportunity to develop a physical constitution that will benefit themselves and future generations; (3) to teach games and sports that can be enjoyed dur-

L. L. NELSON

Athletic Director
Gadsden High School
Gadsden, Ala.

ing the school day and also during the pupils' leisure hours.

The program is carried on by two well-trained and capable full-time directors who have attended both state and regional conferences. All pupils are required to participate one hour daily, five days per week, during each of the nine months of the year. Upon the completion of the four year course in physical training, each pupil is given two units of credit toward graduation.

Shows Army Calisthenics

In a recent gymnasium demonstration, 40 boys and 20 girls showed what is being done to build up bodies, muscles and health. First, the boys demonstrated the calisthenic exercises used by the Army. As they went through the Army setting-up drill each movement and its purpose were carefully explained.

Following the military routine, the boys gave a tumbling act illustrating the various stages of training for tumbling. Beginning with all kinds of flips over apparently unsurmountable obstacles, they ended up with "porpoise dives" in which the movements are too intricate for the ordinary observer to follow. Next, a rope climbing exhibition showed what such exercise will do for the muscles and the sense of balance.

The daily exercises given the boys to prepare them for the Army are as follows: chinning the bar, horizontal bars, ladder, walking against time, running against time, boys carrying their own weight, weight lifting, jumping for distance, jumping for height, ranger activities, military

drill, face positions, different dresses, marching technic.

The girls' part of the program consists of rhythmic athletic dances, the building of pyramids and statues and tumbling. The girls also learn how to march.

A thorough course in health and safety is included in Gadsden's program. Pupils develop the correct habits required in this course through actual performance. Before entering the gymnasium, they are required to be dressed in regulation uniforms, which they must keep neat and clean. Each pupil keeps a health card to make him conscious of the importance of health chores and proper diet. He does supplementary reading and reports on what he learns concerning the principles of health. He is required to take a shower after each class period and is given a physical checkup periodically.

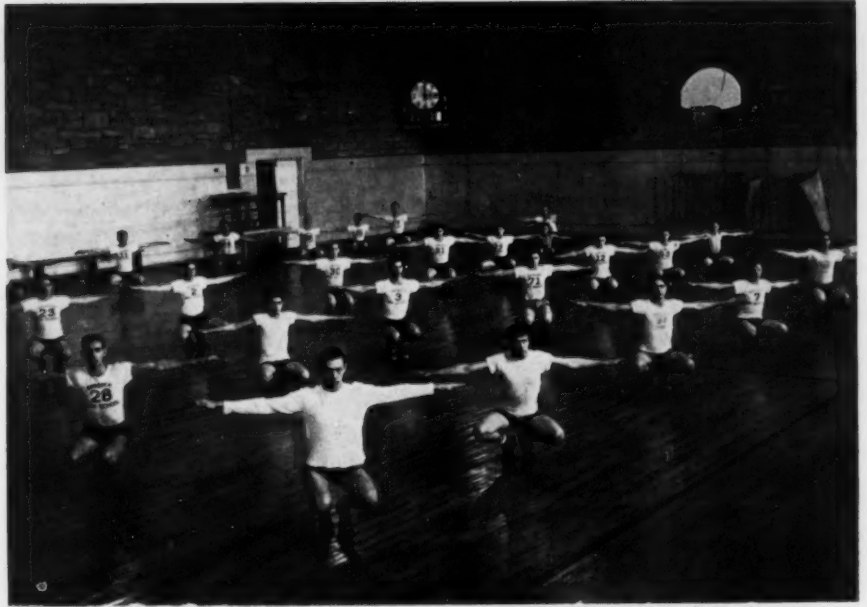
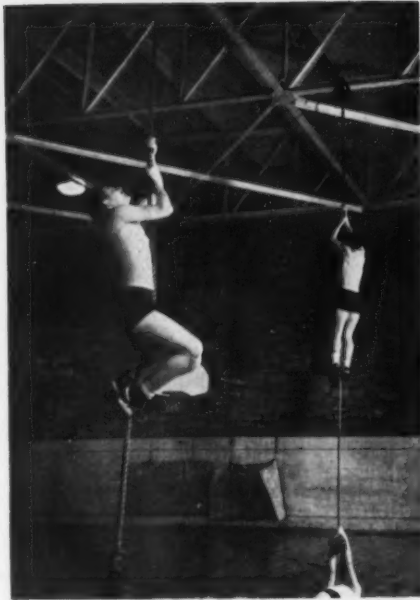
Pupils are also required to attend the showing of a health film, supplied by the county health department, on an average of once a week.

What Health Cards Reveal

The health cards show that at least 85 per cent of the pupils have attained their standard weight over a period of from a few months to a year as a result of the physical fitness program.

Ten hours of first aid is a part of the regular physical education program. Each pupil must be able to demonstrate, before the class, that he understands all the principles and that he can administer them successfully. At the end of the course, he receives either a junior or a senior certificate.

Many pupils have been called upon at different times to put their knowledge of first aid into actual practice and have been very successful in doing so. When the artery in his



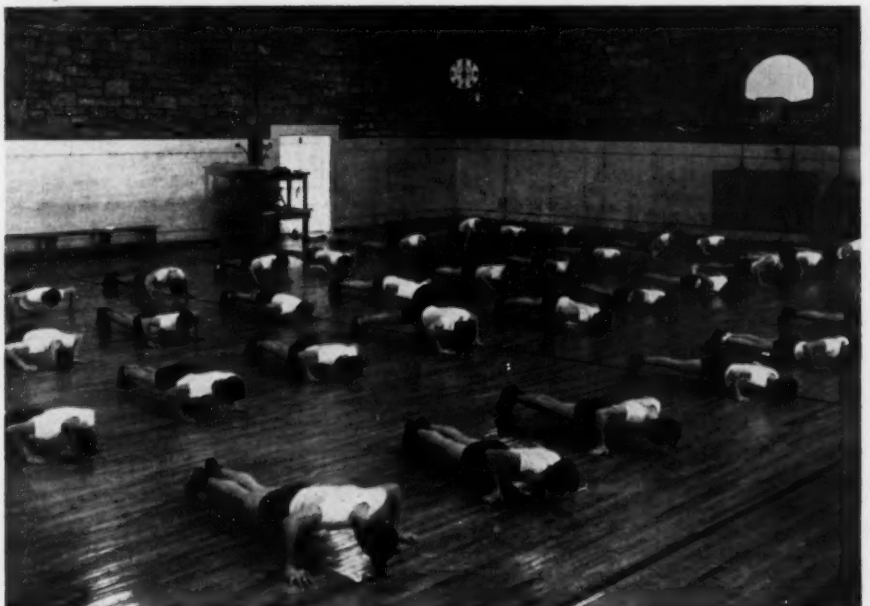
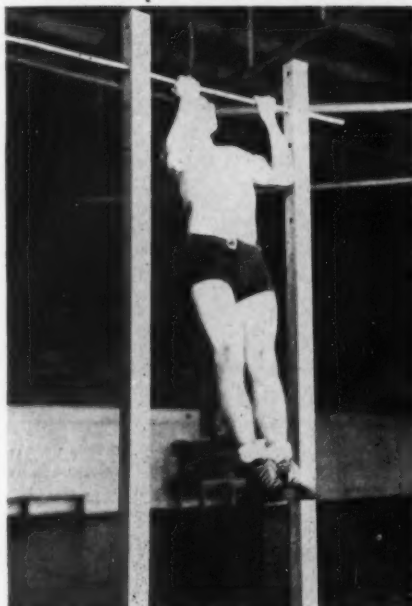
ROPE CLIMBING (for arm and shoulder muscles) and **FULL KNEE BEND** (for leg muscles and balance)



LEG RAISE (for abdominal and back muscles)

neck was severed one boy saved his own life by directing his attendants about what they should do. This act was later commended by the doctor who attended the case.

Although the physical education course of Gadsden High School is a strenuous one, it does not work a hardship on any pupil, for all have become interested. The course has become one of character development as well as physical education. It is one that touches all pupils and has helped them in more ways than one to assume correct attitudes and a correct approach to the outside world. It has contributed to an underlying consciousness of responsibility, personal effort and sacrifice on the part of the student body.



CHINNING THE BAR and **PUSH-UP** (for arm and shoulder muscles and for shoulder girdle)

PUPIL INJURIES

New interest centers in state benefit plans as physical education expands

KENNETH LUNNEY, High School Principal, Green River, Wyo.

ATHLETIC injury benefit plans, state administered, have been one answer to the problem of caring for pupils injured in scholastic athletics.

Common law has established that states, local agencies of the state and municipalities are not liable for damages when the injury occurs in the performance of a governmental function.¹ School districts, as agencies performing governmental functions, are not liable even when negligent, unless so declared by statute.²

The states of California, Washington and New York are exceptions to this common law rule, having explicit statutes upon which cases may be based.

Many Lawsuits Against Employes

School district employes and officers are subject to law suits in every state in the Union for wrongs growing out of their work in the schools; furthermore, as individuals, they are capable of committing wrongs which the school district as a corporation is unable to commit.³ These individual cases are usually based on negligence on the part of the individual employe or officer.

Generally speaking, athletic injury benefit plans operate without statutory enactment, are not compulsory and do not encompass the entire state.⁴ There are exceptions to this statement. The Iowa plan operates as a regular insurance company incorporated under the laws of the state.⁵ In Massachusetts, New York

and Kansas statutes permitting the incorporation of the athletic protective plan have been enacted.

The question is asked, "Does the operation of a benefit plan within a school set aside the legal liability of the school and its athletic personnel?" The athletic benefit plan in no way cancels the legal liability of the school district and personnel from its previous status. However, the presence of an athletic benefit plan destroys much of the incentive for legal proceedings against the school district and its personnel.⁶

The objective of all athletic injury benefit plans is to offer partial protection to those pupils participating in scholastic athletics. The Wisconsin benefit plan purposes: (1) to assist boys hurt in athletic activities to meet expenses incurred in connection with such injuries; (2) to safeguard the welfare of all participants, and (3) to discover the reasons for injury and apply remedial measures.⁷

In analyzing the scope and coverage of athletic injury benefit plans it is necessary to take two steps. First, injuries can be classified into 11 divisions: (1) fractures; (2) dental injuries; (3) x-ray usage; (4) miscellaneous injuries; (5) dislocations; (6) lacerations, cuts and contusions; (7) sprains; (8) injuries not scheduled for medical attention; (9) hospitalization; (10) transportation, and (11) death benefit.

Where state plans include these divisions, the next consideration is the extent to which each classification is covered and treated in various states. Wisconsin and California are represented in nine of these divisions. New York, Texas, Iowa, Pennsylvania, Nebraska, Michigan and Idaho are represented in eight divisions. All plans include the first three divisions (fractures, dental in-

⁶Ross, Heart, J.: Personal Interview, July 1941.

⁷Wisconsin Interscholastic Athletic Association, Eighteenth Yearbook of Wisconsin Interscholastic Athletic Association, 1941, p. 56.

juries and x-ray usage). All plans except Georgia's include the first five divisions.

Two charges are made in most state administered benefit plans. First, a school must pay a participation fee to the state association. This fee is usually based on the enrollment of the school and varies from \$50 for the largest schools in some states to \$3 for the largest schools in North Dakota. Second, an enrollment fee is charged each individual for participation in the plan. This individual fee also varies; \$3 is maximum.

Wisconsin, California and Nebraska offer two plans each. They offer some type of coverage to even the thinnest pocketbook.

Why Plans Are Valuable

The following values of various types of benefit plans have been proved in one state or another. For the most part these characterize the more extensive benefit plans:

1. Serious injuries are cared for.⁸
2. X-ray is used to determine treatment.
3. A physician decides when a boy is ready to return to competition. In some places it is now compulsory for an athlete who has been injured to remain out of competition for a specified length of time.
4. More careful medical attention is insisted upon.
5. Parents are relieved of financial burden.
6. Those unfit for competition are eliminated.⁹
7. Playing conditions are safer.¹⁰
8. Data are available for extension of the plans to include other activities.
9. Equipment is being standardized.
10. The plan is not compulsory.
11. Much donated service has been eliminated.¹¹
12. Much incentive for legal proceedings is destroyed.

Because of the present demand for extensive physical training, the school without some solution to the problem of athletic injuries may well investigate the injury benefit plan. Those schools with such a plan may need to provide for its extension to include other activities.

⁸Forsythe, op. cit., p. 137.

⁹Loc. cit.

¹⁰Loc. cit.

¹¹Patty, W. W., and Van Horn, J. P.: Athletic Insurance, *Athletic Journal* 16:38 (Feb.) 1936.

¹Poe, Arthur Clayton: The Legal Liability for the Injury of Children in Public Schools, *Journal of Health and Physical Education* 7:72 (Feb.) 1936.

²Loc. cit.

³Dice, Clifford Orville: The Tort Liability of Individual Employes and Officers of School Districts. Unpublished doctor's dissertation, University of Southern California, 1937, p. 2.

⁴Rosenfield, Harry N.: Liability for School Accidents, New York and London, Harper & Brothers, 1940, p. 137.

⁵Forsythe, Charles E.: Athletic Accident Benefit Plans, *Journal of Health and Physical Education* 12:137 (March) 1941.

Nobody HAS TO Salute U. S. FLAG

HARRY N. ROSENFELD

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Federal Security Agency

ON FLAG DAY, the Supreme Court of the United States rendered one of the most important decisions of the year and took the rare step of overruling one of its former decisions. It held that the West Virginia state board of education could not constitutionally expel children from school for refusing to salute the flag because the compulsory flag salute contravened the Bill of Rights of the federal Constitution.¹

The decision is of particular importance not only because it comes in the midst of war but also because it is one of the few Supreme Court decisions on questions of religious freedom.

The compulsory flag salute, as a controversial issue, has ranged far beyond both educational and legal professions. It is particularly interesting to note that during the legislative sessions that have just been completed at least three states were considering laws on flag salutes. Tennessee finally passed an act barring any such compulsory flag salute.²

Gobitis Case

The Supreme Court case arose in West Virginia. After the Supreme Court, in the Gobitis case (from Pennsylvania) in 1940, ruled that the flag salute was constitutional, the West Virginia state board of education adopted resolutions, pursuant to a statute mandating the teaching of Americanism, requiring the flag salute and pledge of allegiance as a regular part of the school program.

Jehovah's Witnesses, a religious sect, claimed that their religious faith forbade saluting the flag since it was a "graven image" to which homage was forbidden by Exodus 20:4-5. They were willing to pledge allegiance to the laws of the United

States consistent with the Bible and to acknowledge the flag as a symbol of freedom and justice to all, but they could not, according to their conscience, salute the flag. For this disobedience the nonsaluting children were expelled from school. An injunction was sought to restrain the state board of education from enforcing the regulation.

Based on Bill of Rights

In a 6 to 3 decision, the Supreme Court held that the compulsory flag salute was unconstitutional as abridging rights guaranteed by the Bill of Rights of the federal Constitution. The majority of the court, represented by Justice Jackson, regarded the flag salute as "a compulsion of students to declare a belief." Said the court:

To sustain the compulsory flag salute, we are required to say that a Bill of Rights, which guards the individual's right to speak his own mind, left it open to public authorities to compel him to utter what is not in his mind.

The court, contrary to the basic argument presented to it by the Jehovah's Witnesses, saw the issue not as one of religious beliefs but of broader basic constitutional rights and liberties. The court rejected what it said was an assumption in its earlier Gobitis opinion of the very issue at stake, to wit, the propriety of imposing the flag salute as a legal duty. It considered the grounds advanced for its earlier decision and rejected them one by one.

Constitutional protections do not weaken government and even school boards are subject to the constitutional protections established by the founding fathers for the dissenting individual. The Bill of Rights insulated certain rights against legis-

lative interference. "Compulsory unification of opinion achieves only the unanimity of the graveyard" was the court's answer to the cry that the salute was a basic element in achieving national unity.

Freedom to differ is not limited to things that do not matter much. . . . The test of its substance is the right to differ as to things that touch the heart of the existing order. . . . If there is any fixed star in our constitutional constellation, it is that no official, high or petty, can prescribe what shall be orthodox in politics, nationalism, religion or other matters of opinion or force citizens to confess by word or act their faith therein.

Consequently, the court ruled that the compulsory flag salute "transcends constitutional limitations . . . and invades the sphere of intellect and spirit which it is the purpose of the first amendment to our Constitution to reserve from all official control."

Justices Black and Douglas, while concurring in this result, expressed in a separate opinion their view that the salute was unconstitutional because it abridged religious freedom. They referred to the compulsory ceremony as "a handy implement for disguised religious persecution." Justice Murphy concurred separately and based his position on the constitutional protection accorded freedom of thought and of religion.

Frankfurter Dissents

The major dissenting opinion was written by Justice Frankfurter, who had written the majority opinion in the Gobitis case which was overruled by the present case. In substance he reiterated his position in the earlier case. He objects to what he views the conclusion of the court to be that "religious scruples afford immunity from civic obedience to laws." It is his conviction that "saluting the flag suppressed no belief nor curbs it,"

¹West Virginia Board of Education v. Barnette, Sup. Ct. U.S., June 14, 1943.

²Tenn. Public Acts 1943, Chap. 1. See also, Kan House Bill 162 and Mo. House Bill 143.

and that this legislative attempt to achieve national unity should not be subject to judicial negation.

The full significance of the West Virginia case can only be understood against the background of the recent legal history of Jehovah's Witnesses cases. Before the Gobitis case, which was overruled by the West Virginia case, only 18 states expelled pupils for refusing to salute the flag. Within six months after the earlier case, all 48 states followed suit; mob violence was visited upon the children of this hapless sect and attempts were made to persecute nonsaluting children as juvenile delinquents.³ During the argument of the West Virginia case, the attorney for Jehovah's Witnesses informed the Supreme Court that 20,000 children had been expelled from school because of the Gobitis case.

Earlier Decision Unpopular

It is interesting to note that the Gobitis case came up in April 1940, the time of the successful German invasion of Norway and the Low Countries. Few recent cases have aroused such immediate and widespread controversy. Of 21 articles, 19 were critical of, and only 2 were favorable to, the majority.⁴ It is also worthy of note that apart from the lower court case which was affirmed in the West Virginia decision, decisions in Kansas and Washington also refused to accept the authority of the Gobitis case. Courts in Illinois, New Hampshire and New Jersey refused to follow the case to its logical conclusion of ruling against parents under the compulsory school law for not sending their expelled nonsaluting children to school.

The Gobitis case,⁵ overruled by the West Virginia case, arose in Pennsylvania. In a suit to enjoin the school board from requiring the flag salute as a condition of attendance, the Jehovah's Witness child won in the two lower federal courts, only to lose out in the Supreme Court in

an 8 to 1 decision, with Justice Stone in the minority and Justice Frankfurter speaking for the majority.

The decision was based on the necessity for maintaining national unity. "We live by symbols." The flag is the symbol of our national unity," said the court. The "promotion of national cohesion" was at stake.

In 1940 the court felt that to overrule the requirement would contravene the right of state legislatures to determine the appropriateness of specified actions in reaching such national unity and would improperly constitute the Supreme Court as a super-board of education: "The courtroom is not the arena for debating issues of educational policy."

A society which is dedicated to the preservation of those ultimate values of civilization may in self-protection utilize the educational process for inculcating those unconscious feelings which bind men together in a comprehending loyalty.

Therefore, ruled the court in this earlier case, religious liberty must yield to the greater values symbolized by the flag, without which there can be no religious freedom at all.

Based on Stone's Rationale

The present Chief Justice (Stone) was the only dissenter in that case. It is interesting to note the fulfillment of the prediction of the American Bar Association that his dissent would some day become the ruling law of the land.⁶

Stone's position was that there must be a mutual accommodation between the conflicting rights of governmental survival and the constitutional guaranties of civil liberties which were specifically intended for the protection of minorities. He argued that the state's interest in the flag salute was not so great as to outweigh the guaranty of religious freedom:

If these guarantees [of civil liberty] are to have any meaning they must, I think, be deemed to withhold from the state any authority to compel belief or the expression of it where that expression violates religious convictions, whatever may be the legislative view of the desirability of such compulsion. . . . I am not prepared to say that the right of

this small and helpless minority . . . to refrain from an expression obnoxious to their religion is to be overborne by the interest of the state in maintaining school discipline.

How do we stand now? The Gobitis case was decided solely on the issue of religious freedom. The majority in the West Virginia case seems not to have relied on religious freedom, although this definitely was the basis of the concurrence of Justices Black and Douglas and in part of Justice Murphy. The majority seems to have relied on the constitutional guaranty of freedom of speech in general.

The court refers to the protection of "the individual's right to speak his mind" and specifically states "nor does the issue as we see it turn on one's possession of particular religious views or the sincerity with which these are held." Consequently, the issue has been settled on the much broader ground of general civil liberty. The compulsory flag salute is, therefore, unconstitutional.

Minorities Are Protected

The result of the case is in the realm of ultimate civic and political values. The Gobitis case threw the minority, and with it religious liberty, to the mercy of political majorities. The court in that case assumed the very point at issue, that the flag salute, as an assumed essential to the continuity of our form of government, could be made a legal duty. This assumption was justified by adoption of the legal doctrine of the supremacy of the legislative power within its realm. This result achieved a linkage of patriotism with fetish. The court made the fundamental error of assuming that unity meant uniformity, which ultimately can result only in the suppression of all minority practices.

The democratic form of government has the highest responsibility under the Bill of Rights to make possible the expression of the views of minorities, however unpopular or unorthodox these views may be. By overruling the Gobitis case, the Supreme Court has once again reaffirmed the essential strength of democratic traditions and illustrated that a vital democracy, even in the midst of an all-out struggle for self-preservation, need not abandon those precious rights of civil liberty that make the fight worth while.

³State of Arizona v. Davis, 120 Pac. (2) 808 (1942).

⁴See Note, "Use of Taxation and Licensing in the Suppression of Freedom of Religion and the Press," 52 Yale Law Journal 168, 175, n. 49 (Dec. 1942).

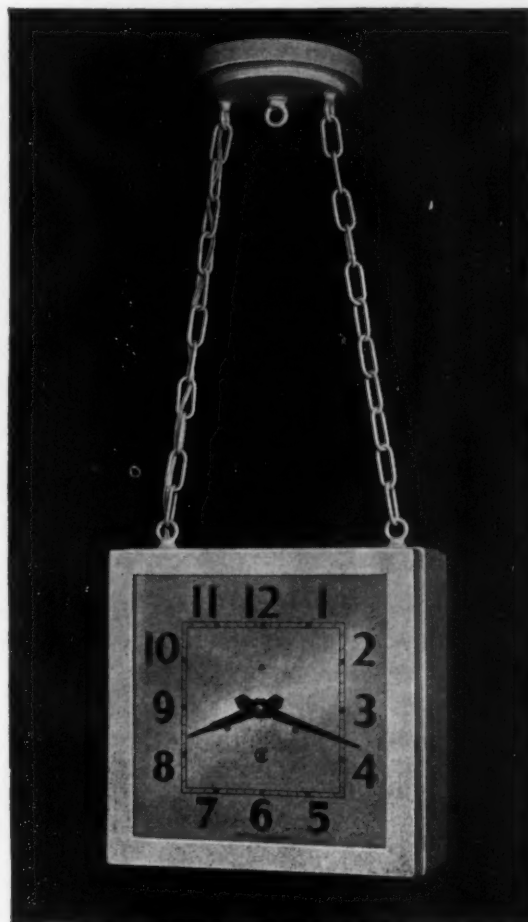
⁵Minersville School District v. Gobitis, 310 U. S. 586, 60 S. Ct. 1010 (1940). Between the decision of this case and the West Virginia case, the court had occasion to invalidate municipal ordinances forbidding Jehovah's Witness preachers from circularizing and from ringing door bells.

⁶Bill of Rights Review, Vol. I, p. 267, Summer 1941, Editorial.

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Maintain MOTORS on Schedule

PROPER maintenance of school motors involves periodic and systematic inspection performed by competent persons.

Records giving the date of installation, brush or bearing replacement and similar data are necessary in following a maintenance schedule if results are to be expected. Several types of recording systems have been developed and are available.

Procedures

Oil level in the bearings should be checked once a week to see that the oil rings are moving freely. The temperature of the motor bearings and primary iron can be checked with the hand. Sniff the warm air coming from open motors for fumes from overheated insulation.

Brush holders, brushes and shunts should be checked once a month and the motor blown out with compressed air.

Once a year the air gap should be checked with a feeler gauge. Insulation resistance is checked with an insulating testing set, the line voltage with a voltmeter and the load with an ammeter. Ball and roller bearings should be cleaned, old grease removed and new grease applied. The stock of renewal parts can be appraised through past experience.

Motors should be dismantled every two years. All windings must be tight and loose wedges and bands should be replaced before dipping in varnish and baking. Inspect commutators and commutator connections. Sleeve bearings require no flushing. At intervals of about two years in average service, or during general overhaul periods, the bracket should be removed and the bearing housing

washed out. Hot kerosene oil and compressed air should be used.

Cleanliness is the first requirement of good maintenance and is almost as important to the successful operation of an electric motor as is a supply of electricity. The entire exterior of the motor should be kept clean—particularly in the case of totally enclosed or fan cooled motors. A film of dirt and grease on the exterior retards radiation and prevents the air from cooling the frame. Dirt, lint and other material in air inlets and discharge ducts restrict ventilation and cause the motor temperature to rise. Cool insulation deteriorates slowly.

The interior of the motor should be cleaned by means of compressed air at least once every six months, or with greater frequency if the location is dirty. Grease, oil and water must not be permitted to accumulate. When blowing out dirt, the air should not be directed into the motor until it is certain that moisture in the air lines has been cleared out.

Foundations should be thoroughly investigated and frequently inspected. Cracked and limber foundations are a frequent cause of misalignment and vibration. Vibration or failure to tighten holding down bolts often causes misalignment.

Vibration Fatal

Misalignment and vibration are fatal to bearings, couplings, bolts, gears, brush holders and commutation. In addition, bearing cartridges and bracket bolts must be tight, for loose parts such as these can cause misalignment.

Vibration may be caused by the pulsating nature of the torque demand of the driven apparatus or by the imbalance of rotating parts. Vibration from the first cause may be unavoidable but frequently can be

minimized; when caused by the rotating parts, they should be balanced, dynamically, if possible.

Solid couplings must be in line. The bolts holding the two halves of solid couplings together have been known to become loose and should be periodically inspected.

Flexible couplings work best when they have no flexing to do. Real success with them depends on having and keeping the centerline of both driving and driven shafts in a straight line. Every effort should be made to prevent thrust or strain on the coupling. Wear of these parts must not be permitted to go too far, as an end thrust may be imposed on shafts. This will ruin bearings and may wreck the bearing pedestal or bracket and the driven device.

Some flexible couplings require lubrication. Oil recommended by the coupling manufacturer should be used in the quantity specified. If too much oil is used, it will be thrown out and drawn into the winding of the motor. On the other hand, lack of oil will ruin the coupling.

Air Gap Small?

The air gap or clearance between the rotor and stator may be too small, because of worn bearings, a sprung shaft or improper alignment of the end bracket or bearing pedestals. This clearance should be checked every six months. For clearance in A.C. motors, use a 0.005 inch feeler gauge for motors up to 10 h.p. and a 0.010 inch gauge for motors above 10 h.p. These checks should be made at the pulley end and four readings taken, 90° apart.

The air gap of D.C. motors is usually greater than for A.C. motors but this should also be checked frequently. If a record of previous readings is kept, it will show that some change has taken place. If the new readings do not check with readings previously taken, the cause of change should be investigated.

Bearing trouble is a primary cause of shutdowns, delay and expense. The first requirement of successful bearing operation is lubrication. This entails more than just an adequate

Assembled with the cooperation of J. O. Clevenger and W. W. McCullough, section manager and maintenance engineer, respectively, Westinghouse Electric & Manufacturing Company.

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supply of lubricant. The lubricant, the bearing design and its condition must be correct.

In sleeve bearing housings, oil must be maintained at the proper level and requires frequent checking. It should be added only when the motor is at rest; otherwise the added oil may expand on becoming warm and cause an overflow, soaking the windings.

Oil rings or other means used to introduce oil between the bearing surfaces and the shaft must function correctly and should be inspected periodically.

In a sleeve bearing the oil adheres to the shaft and bearing surfaces and is dragged around by the rotation of the shaft to form a wedge-shaped film between the shaft and bearing surfaces. This film of oil measures from one to three thousandths of an inch in thickness and carries the load. So long as this film of oil is established and maintained there is no metal-to-metal contact and, therefore, no bearing wear. Obviously, rotation is necessary to establish and maintain film.

Oil rings used with sleeve bearings usually carry far more oil than necessary for proper lubrication. When running, the centrifugal force causes most of the oil to be carried on the outside diameter of the oil rings. This causes splashing and spray that may be picked up by air currents passing through the bearing housing and carried to the winding of the motor.

Oil of higher viscosity should be used when motors are started or reversed often, as the oil drains from the bearing surfaces slowly. This tends to maintain oil between the metallic surfaces so that it is available when the motor starts.

Seal Against Dirt

Sealing the bearing housing is necessary to keep out air and dirt and is accomplished in good design by close tolerances, felt seals and air baffles outside of the bearing housing proper. When available these provisions offset the blower action of rotating parts.

Excessive play in the bearing, such as is occasioned by wear, spoils the effectiveness of the felt seal. When worn bearings are replaced, the felt seals should also be replaced, and they should be ordered when ordering bearings; otherwise they may not

be available when they are needed.

Bearing temperature should not exceed 60°C., as higher temperatures will cause oil to foam. If this temperature is exceeded, the cause should be determined immediately. Care should be taken to avoid any thrust exerted on the shaft by couplings or apparatus that the motor drives, as scoring of the thrust surfaces of the bearing may result. Continuous pressure on the thrust surfaces presses the lubricant out and trouble is certain.

Watch the Bearings

Ball and roller bearings are sometimes used in connection with motors that are frequently started or reversed. They are also frequently used in connection with enclosed motors or motors that must take end thrust, such as vertical apparatus.

The balls or rollers in "antifriction" bearings serve the same purpose as does the oil film in sleeve bearings, *i.e.* to keep the rotating portion separated from the stationary part of the bearing. It is necessary, however, to keep the balls or rollers separated from one another and to keep them properly spaced within the bearing race. This is a function of the cage, or retainer. It is obvious that there is a rubbing action and, therefore, friction between the balls (or rollers) and the retainer, which makes lubrication necessary. Lubrication is also necessary to prevent corrosion.

Grease is the usual lubricant, although oil is frequently used with vertical installations and when unusually high speed of rotation is required. The lubricant used with bearings of this type should be that recommended by the bearing or motor manufacturer. In every instance, the service should be clearly stated. Soda-ash greases are usually preferred because of their high melting point and stability. To a large degree the success or failure of bearings depends on the care of lubricant and the equipment used to get it into the bearings.

Grease should be kept in a clean tight container. Air should be excluded as it oxidizes the grease and may cause it to become corrosive. It is desirable to use a grease gun for injecting grease into the bearings. If the gun and its fittings are kept scrupulously clean, it will assist in keeping dirt and dust out of the

grease. Grease fittings on the motor should be thoroughly cleaned before each use. This very important job is too frequently neglected.

Some antifriction bearings will take considerable end thrust but excessive thrust must be avoided. Outer races must fit snugly in the bearing cartridge to prevent their free rotation in the housing (slight creeping is not objectionable as it distributes wear). The fit should not be too snug, as the races must be free to move endwise to avoid excessive end thrust caused by expansion and contraction of the shaft or motor housing.

The inner race must fit sufficiently tight to prevent its movement on the shaft, hot or cold. If it fits too tightly on the shaft, it may crack. Bearings should be warmed to approximately 200°F. and then slid onto the shaft location with very light pressure. If much pressure is required to place the bearing on the shaft it is an indication that it is too tight. The inner race and cage must not contact any part of the bearing housing under any circumstance.

Spotting Trouble

Distressed bearings can usually be detected by excessive temperature or an unusual noise, such as clicking. Higher temperature may be the result of overgreasing caused by the churning of the grease by the retainers and balls. Even in the tightest enclosures dirt and air will enter. The dirt may lap the bearings and the air will cause the grease to become corrosive.

Therefore, at the end of 10,000 hours of operation, the bearing and cartridge should be thoroughly cleaned, all old grease removed and parts washed with Stoddard solution or carbon tetrachloride. Final traces of solvents should be removed with light oil before refilling with grease. The cartridge should be about half filled with grease. It should be recognized that applications of any amount of new grease will not remove old grease from a bearing. The new grease will find the channel of least resistance and flow to the outside without forcing out the old grease.

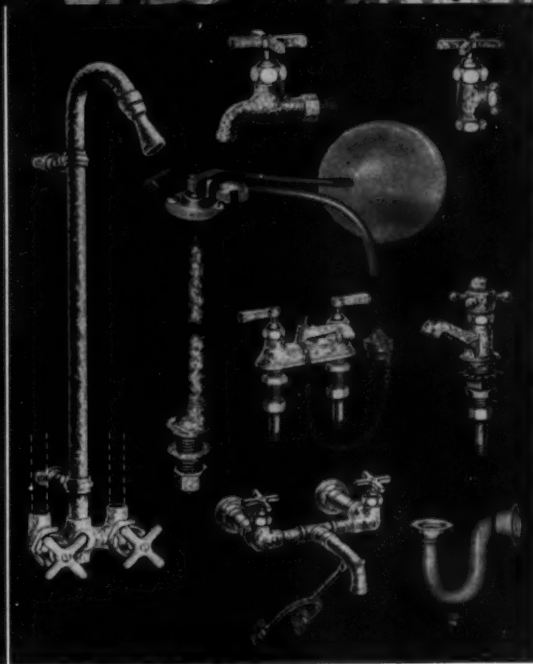
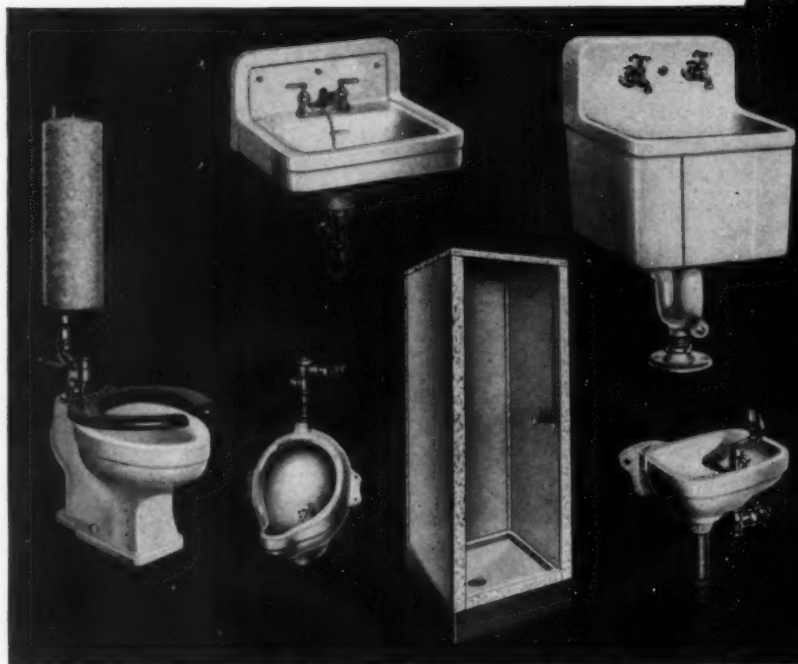
Commutators and brushes are the heart of a D.C. motor and are deserving of frequent and careful inspection. Commutators must be kept clean and smooth. A stone should

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be used to correct roughness. If a commutator is unusually rough or has flat spots it should be turned in a lathe for this condition not only gets worse but also wears out the brushes and brushholders unnecessarily. Mica should be undercut and the string band at front end of commutator kept clean and painted with good insulating paint.

Brushholders should be inspected frequently to assure that they are in proper position and that their springs and pressure levers are in good working condition.

The tightness of the commutator should be checked. If struck lightly with a hammer it should give a clear bell-like ring; if it gives out a dull

sound the commutator should be tightened. Pressure should be applied to the front V ring with a press and the ring nut or bolts tightened. A commutator cannot be tightened by pulling on the clamping nuts or beating the ring nut with a hammer. Ring nuts should be turned with a spanner wrench.

From a maintenance standpoint, insulation tests are made to determine condition rather than quality.

As the insulation resistance is greatly affected by temperature, all tests should be taken at some standard temperature. Records of each test should be kept so that comparisons can be made for readings are valuable only from a comparative

standpoint. A safe rule is that the insulation resistance should be approximately 1 megohm for each thousand volts of operating voltage, with 1 megohm as a minimum.

At intervals depending on the dirtiness of the location, the motor should be dismantled and the accumulation of dirt that cannot be dislodged with compressed air removed. (Dirt and grease lodged among coils or in ventilating ducts will result in higher temperatures and rapid deterioration of insulation.)

Clean With Solvents

To remove these accumulations, three types of solvents may be used: Stoddard solvent or cleaners' naphtha, which are petroleum distillates, or carbon tetrachloride or a mixture of the two. As the distillates are less corrosive and toxic, they are preferable to carbon tetrachloride.

The Stoddard solvent, which is manufactured by the major oil companies, has a minimum flash point of 100°F. It minimizes fire hazards and should be used in preference to gasoline or benzene. Every precaution, however, should be taken to prevent explosion. While the mixture is not flammable its vapors will, when mixed with proper proportions of air, explode.

When this type of solvent will not clean the apparatus, a mixture of carbon tetrachloride and Stoddard solvent may be used. In extreme cases it may be necessary to use straight tetrachloride; however, the toxic effect of this material on workmen must be taken into consideration.

When using carbon tetrachloride, workmen should be guarded against breathing the fumes and they should be under the close supervision of someone familiar with artificial respiration. When conditions are particularly bad, such as in pits or the holds of ships, gas masks should be worn.

Before using any solvent, be sure that: (1) the ventilation is good, (2) workmen's clothes do not become saturated with solvents, and (3) carbon tetrachloride fire extinguishers are handy.

After thoroughly cleaning with any of these solutions, two dips of a baking varnish recommended by the manufacturer for the particular conditions should be applied.

BETTER PLANT PRACTICES

Maintenance in Omaha

As reported in these columns last month, summer maintenance is progressing in schools throughout the country despite shortages of labor and materials.

The present summer is a busy one in the schools of Omaha, Neb., J. Wilbur Wolf, business manager, having arranged a full program. For many years it has been the practice to employ assistant custodians on a nine months' basis. This year, however, assistants' work periods have been extended to twelve months. Most of the summer work is being done with the regular custodial maintenance crews.

Among the projects on the list is the modernizing of lighting and plumbing facilities where it is possible to get the necessary materials. All playgrounds are being put in good shape for fall and the regular summer plan of periodic painting is continuing, inside and out. The purchase of wire fencing from a company that was going out of business is allowing for a few wire fences that have been needed for many years. Considerable insulation work is being done throughout the school system. The replacing and repairing of roofs are proceeding as usual.

A new project this summer is the grading and surfacing of additional playground space recently purchased.

Situation in Atlanta

T. W. Clift, assistant superintendent in charge of business affairs in Atlanta, Ga., estimates that thus far they have been able to continue the maintenance program for repair of school buildings to about 90 per cent of normal. To what extent this program can be con-

tinued depends upon labor supply and future federal restrictions on necessary materials.

"Looking as far as possible into the uncertain future," Mr. Clift declares, "I would estimate that we shall be able to continue a program of protective maintenance that is from 75 to 90 per cent of normal."

In order to use unskilled labor and noncritical materials, Mr. Clift is making some repairs this summer that would not be made to the same extent under normal conditions. These include washing interior walls and woodwork in school buildings. This is being done with unskilled labor and in lieu of painting.

Another project is waterproofing outside basement walls that have allowed seeping during long wet spells. Again, as Mr. Clift points out, this can be accomplished almost entirely with unskilled labor and very few critical materials.

Another war-time project is the construction of a number of brick incinerators that will be connected directly with the smoke stacks of the school buildings. These will replace metal incinerators used in the past and will require some skilled labor but only a small amount of critical material.

"We are continuing our regular maintenance and repair program as far as possible," continues Mr. Clift. "We are not undertaking any large project that will require alterations or renovations but are doing small emergency jobs, such as repairing roofs, outside painting, brick pointing, repairing plumbing, electrical and heating equipment, repairing doors and windows and washing and repairing window shades."



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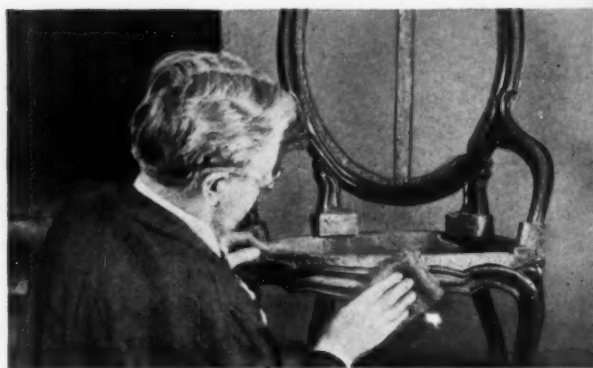


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PEANUTS *in menu planning*

PEANUTS are a concentrated food, low in moisture content and high in fat and protein. The composition varies according to the variety and locality in which the peanuts are grown. The average composition is 4.6 per cent moisture, 2.5 per cent ash, 26.9 per cent protein, 45.6 per cent fat and 20.4 per cent carbohydrate.

The protein content makes the peanut of particular importance in modern diets, especially where a limited amount of meat is available. The value of any food as a source of protein is determined by the number and kind of amino-acids present and by the digestibility of the protein.

Protein Value Demonstrated

Studies by D. Breese Jones of the U. S. Department of Agriculture have shown that the proteins of peanuts are adequate for normal growth and development of experimental animals. Rats that received a diet of bread made from wheat flour (74 per cent extraction) and supplemented with butterfat and minerals grew at about half the normal rate. When this bread was replaced by one made from 25 parts peanut flour and 75 parts wheat flour, normal growth was obtained. The value of peanuts as a sole source of protein and as a supplement to wheat flour has thus been demonstrated.

A similar type of experiment showed that peanut meal could make good the protein deficiencies of cornmeal. Peanuts can be recommended, therefore, as a meat alternate and as a supplement to diets that are predominantly cereal in content. The high fat content gives the peanut a high calorie value.

Peanuts are an important source of the vitamins of the B-complex. There is considerable variation in the values reported in the literature, probably resulting from the differences in samples and source material

and also from the differences in methods of vitamin assay.

The vitamin content of raw peanuts with the skins removed is as follows: vitamin B₁ or thiamine, 0.9 mg. per hundred grams, riboflavin (or B₂) 0.30 mg., pantothenic acid 3.4 mg. and niacin 13 mg. per hundred grams.

Unfortunately much of the thiamine is destroyed in roasting or blanching nuts so that peanut butter, for example, contains only from one third to one fourth the amount of this vitamin present in the raw product. Improved methods of roasting and preparation should make it possible to supply peanut butters much richer in thiamine than those now available.

Niacin does not appear to be destroyed by roasting. A hundred gram serving (3¼ oz.) of peanuts supplies approximately 72 per cent of the day's requirement (18 mg.) for a moderately active man. Peanuts, consequently, have definite value as a pellagra-preventive article of diet.

The peanut also makes an appreciable contribution to the mineral content of the diet supplying in each hundred grams of nuts, 0.111 gm. calcium, 0.394 gm. phosphorus and 2.2 mg. iron.

Peanuts can be used in a wide variety of ways in planning the day's meals. Steamed or boiled and served with white sauce or chopped and combined with rice or beans and eggs, milk and seasoning to form a loaf, they can be served as a main dish. Chopped peanuts may be combined with cream cheese as a sandwich filling. Chopped nuts also may be used as a garnish for creamed vegetable dishes, for fruit salads and

in salad dressing. Chopped and combined with cornbread, fat and seasoning or with potatoes, fat and seasoning these nuts may also be used as a stuffing for meat and poultry.

Peanut butter is one of the best known and most popular of the peanut products now in use in modern diets. This product was first manufactured in St. Louis in 1890 and has since become one of the most popular sandwich spreads. A recent report showed that peanut butter has from 324 to 450 micrograms of vitamin B₁ (thiamine) per hundred grams, which is about one fourth the day's requirement for an adolescent or a moderately active woman.

Yeast Enriches Peanut Butter

In order further to enrich the content of peanut butter in vitamin B₁, riboflavin and niacin as well as in the other vitamin B factors, pyridoxine (B₆) and pantothenic acid, a special yeasted peanut butter has been prepared. Using 20 parts of a special high vitamin yeast and 80 parts of peanut butter, this product has been successfully used by Dr. Tom Spies in the treatment and prevention of pellagra and associated vitamin deficiencies in his clinic at Hillman Hospital, Birmingham, Ala.

Peanut butter can be used alone or in a variety of ways in sandwiches, such as combining with diced crisp bacon, chopped onion, pickle relish, prunes and lemon juice or marmalade.

With strawberry preserves peanut butter may be used as a dressing for fruit salad. In addition, adding ¼ cup of peanut butter to each ½ cup of oil gives a new flavor to French dressing.

Peanut butter cookies are always popular and peanut butter added to ground dried fruits may be used as a filling for baked apples or as a fruit roll in place of candy. Peanut butter spread between graham crackers or

E. NEIGE TODHUNTER

Head, Department of Nutrition
University of Alabama
University, Ala.

On Every Front

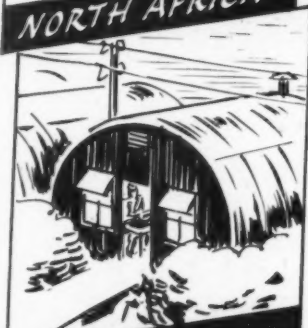
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SCHOOL DEPARTMENT • TYPEWRITER DIVISION
REMINGTON RAND INC.

ginger or molasses cookies gives a new flavor as well as added food value.

Peanut oil has been shown to be highly digestible and to resist oxidative rancidity. It has a good flavor, high stability and a high smoking point, which makes it advantageous as a cooking oil. It has also been shown to be highly satisfactory as a shortening and in salad dressings.

Peanut flour has not appeared to any great extent on the market as yet, because of certain difficulties in the preparation of a palatable prod-

uct. However, it is now possible to obtain a peanut flour of light color and smooth texture prepared from partially defatted peanuts. Such peanut flour has from 55 to 60 per cent protein of high biological value and is also high in B-vitamins. This flour can be used successfully in the proportions of $\frac{1}{4}$ peanut flour and $\frac{3}{4}$ wheat flour for cakes and bread.

A coarse peanut meal can be prepared by grinding roasted peanuts to be used in soups, gravies, cakes and candies or in place of almond meals in macaroons.

In menu planning today, when many foods are limited in supply, the nutritive value of each must be carefully considered. With fewer foods available it is difficult to get variety. Peanuts offer an opportunity for introducing variety into meals through their use as a main dish, a garnish for other dishes and a new flavor for soups, salads, cookies and desserts. The comparatively low cost of peanuts and their contribution in protein and B-vitamins also add considerably to their value in modern diets.

Shorten and Season With Peanuts

EXPERIMENTS conducted at the Georgia Experiment Station of the University System of Georgia have revealed that finely ground paste or butter made from half roasted, blanched peanuts (with skins removed) can be successfully used as a substitute for shortening in a wide variety of bakery products. These include loaf bread, gingerbread, biscuits, cornbread, hot cakes, waffles, muffins and pastries.

The amount of paste needed for most products was found to be $2\frac{1}{3}$ times the amount of shortening called for in standard recipes. The total fat content of the breads was increased about 12 per cent, which was needed because some of the fat in the peanut particles was not available for shortening. There was also an increase in the total protein content of the breads, which tended to make them heavier.

Paste made from half roasted peanuts made the products most palatable, while that made from raw peanuts resulted in an undercooked flavor. Products containing paste made from fully roasted peanuts tasted scorched. It was also found that bakery goods containing the most finely ground pastes were the most tender, had smooth texture and were pleasing in appearance.

New recipes are not required in using peanut paste as a substitute for shortening except that $2\frac{1}{3}$ times as much paste is required as the amount of shortening called for in the standard recipe, with some additional liquid. This is illustrated

**HELEN H. THOMPSON
and J. G. WOODROOF**

Georgia Experiment Station
University System of Georgia

in the accompanying recipe for gingerbread.

Gingerbread

1 cup sorghum sirup
 $\frac{1}{2}$ cup sour milk
 $\frac{1}{2}$ to $\frac{2}{3}$ cup (4.2 oz.) peanut paste
 $\frac{1}{3}$ cup water
1 egg
2 cups flour
 $1\frac{1}{2}$ tsp. ginger
 $\frac{1}{2}$ tsp. salt
1 tsp. soda

Cream peanut paste with sirup, then egg. Add the dry ingredients sifted together alternately with milk and water. Bake at 365° F. for thirty minutes.

With pastry (pie crust) the same substitution was made in the standard recipe except that $2\frac{1}{2}$ times the shortening equivalent was required and it was slightly less flaky than standard pastry. Good homemade loaf bread and rolls were prepared with the same proportions of paste as that found satisfactory with gingerbread. Peanut bread had a smooth texture with air cells evenly distributed and uniform in size. This bread remained moist longer.

Investigations into the possibilities of peanuts as seasoning for vegetables revealed that 3 ounces of ground, blanched peanuts (with skins removed) were excellent for seasoning a pound (cooked weight) of most vegetables. White vegetables, such as potatoes, lima beans

and fresh or dried field peas, were best when boiled directly with the ground peanuts, which were placed in a small muslin bag.

Green or yellow vegetables were less suitable for cooking directly with peanuts, owing to the appearance of the whitish, milk-like peanut liquor. Since cabbage, asparagus and carrots are commonly served creamed, this objection was overcome by boiling the peanuts separately. The liquor was then thickened and served with the vegetables as a cream sauce.

With other green vegetables it was found practical to boil the ground peanuts, let the liquor cool, then remove the oil from the top and use for seasoning vegetables.

The preparation of peanuts for either seasoning or shortening is simple but must be done carefully.

1. Use any standard variety of fresh peanuts.

2. Shell, removing all foreign matter, including rotten and discolored nuts.

3. Heat nuts to 250° F., with frequent shaking, for ten minutes.

4. Cool peanuts quickly, rub off skins and separate in air current.

5. *For shortening*, grind peanuts in peanut butter mill as finely as possible, place in cans or jars and store in cool place. *For seasoning vegetables*, grind in meat chopper, place in cans or jars and keep cool.

Unless kept under refrigeration, both of these products show signs of rancidity within a month, but under refrigeration they keep for more than six months.

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CHEVROLET MOTOR DIVISION, General Motors Corporation, DETROIT, MICHIGAN

Planning a VISUAL CENTER

LT. JAMES P. FITZWATER

Former Coordinator, Visual Instruction
Lake View High School, Chicago

THE visual instruction program in a high school should (1) emphasize the educational rather than the entertainment values in motion pictures; (2) contribute to more successful teaching technics by providing for an interchange of ideas in the use of the educational motion picture; (3) encourage utilization of the educational motion picture in all departments of instruction; (4) integrate the educational motion picture in each phase of instruction where it is applicable.

In order to attain such goals as these, certain considerations are basic. Projection equipment is expensive; its use should be carefully supervised and the equipment itself kept up. In addition, teachers must be trained to integrate the film in instruction, to understand and know the advantages and limitations of each film and to choose wisely those films that meet their needs. Too, a staff of pupils trained as operators can help teachers to present films at opportune times.

A medium sized room will serve as an equipment storeroom and there should be a review screening room,

an office for the coordinator and a student operators' headquarters. Adjoining this visual instruction center on either side would be projection classrooms, one to seat approximately 100 and the other 150 pupils. Each room should be equipped with an individual ventilating system and lighting controls and should be acoustically treated to prevent undesirable sound reverberations.

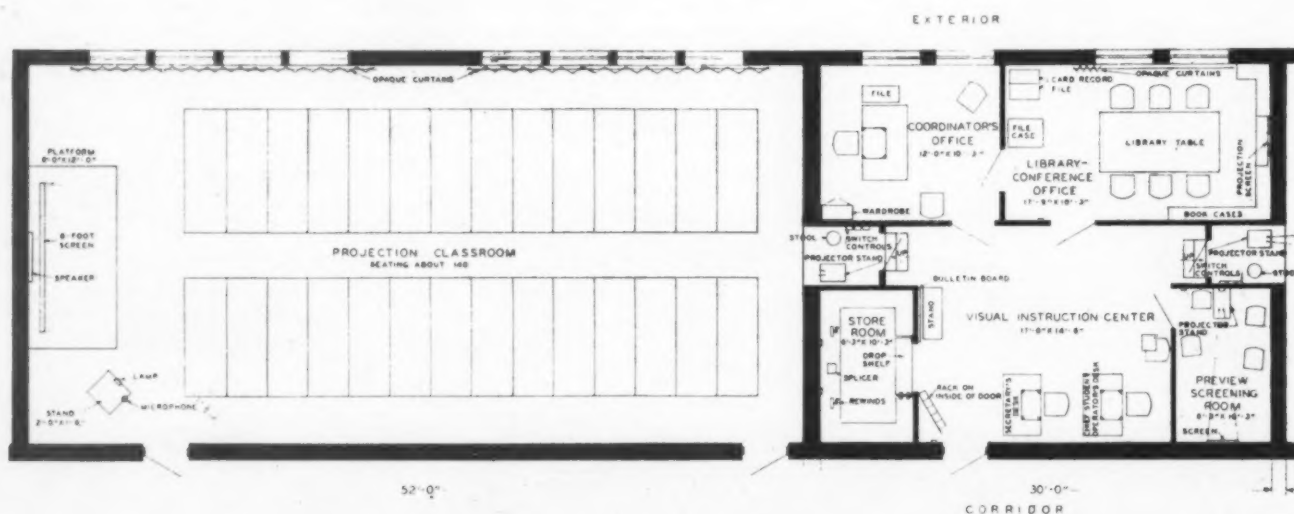
For practical purposes the projector should be placed in a recess in the wall and should be elevated so that the projected beam of light is above the head of anyone who may have to walk across the rear of the room. This arrangement will keep the aisle open.

Entrance to the projection booth should be from the visual instruction center. The booth should contain a support for the projector, a stool for the operator, electrical outlets for power and speaker and remote control of room lights. The front should be open to permit communication between operator and teacher when this is necessary.

Windows of the classroom should be darkened with opaque (not necessarily black) curtains drawn across on a transverse rod. With such arrangements as these, the unit ventilating system would be a necessity during the time of the year when the regular heating and ventilating system is not in operation.

The visual instruction center is the place through which all visual instruction activity will clear. The several features of the room should be designed to fulfill specific needs of educational procedures. The preview screening room should be small and acoustically treated. It should be equipped with a screen, several chairs, a stand and a small sound projector set up ready for operation at any time. Here a teacher can preview a film for its suitability in a particular unit of instruction and become familiar with its content before screening it for a class.

The library-conference room should contain (1) as many books as possible pertaining to visual instruction; (2) the teachers' manuals or handbooks for each film; (3) a card catalog of additional references



The floor plan of this visual instruction center contains space for every purpose. To the right, not shown, is another projection room seating 100 persons.

Movies open *Two* broad highways to the mind



A FIFTH-GRADER sits motionless...absorbed...watching, hearing Washington address the Continental Congress...witnessing the signing of the Declaration of Independence...and his nation's history outgrows the covers of the textbook.

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AFTER THE WAR...THESE CAN HELP YOU, TOO

School-made movies are proving a potent educational force... and after the war, schools will find new value in this phase of education. These Filmo cameras are ideal for the purpose.



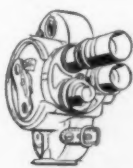
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The "tailor-made" 35mm. camera. Seven standard models plus a complete choice of precision-engineered accessories fit Eyemo for everything from quick field work to complex studio projects.



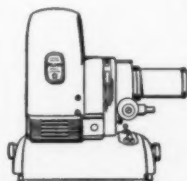
FILMO Turret 8

Turret mounts 3 lenses and matching finders. Critical focuser shows full frame through lens. Four speeds, including slow motion. Built-in exposure chart. Automatic footage dial reset. Uses low-cost 8mm. film.



FILMO 70 D

True theater-quality pictures are easy to get with this Filmo. Loads 50- or 100-foot spools of 16mm. color or monochrome film. Seven speeds include "sound speed" and slow motion. Three-lens turret head with your choice of fine lenses.



FILMO Slidemaster

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MOTION PICTURE CAMERAS AND PROJECTORS

PRECISION-MADE BY

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to magazine articles; (4) a card catalog containing a description, suggested places for use and an evaluation summary of the previous uses of the films in the main film library; (5) a general file of film catalogs from libraries and distributors and projector equipment service manuals, and (6) a library table and chairs.

Around this table conference groups may meet to preview a film for evaluation and to organize lists of films suitable for given areas of the curriculum. Since the room will be used for projection, it should have the necessary opaque curtains for the windows, a permanently mounted screen and the necessary electrical outlets for power and speaker cords.

The coordinator's office should have a minimum of equipment and be available for discussions with teachers, which will lead to obtaining the maximum benefits from the facilities.

The storeroom should house all equipment when not in use, *i.e.* films, slides, rewinds, projectors, screens, extension cords, splicing

equipment, projector stands, spare parts. It should be large enough to permit minor repair work. A bulletin board on the wall near the door of the storeroom would provide space for display of the booking and weekly class projection schedules.

The main room should be provided with two small desks for use by the secretary and chief operator, both pupils. Pupils selected to do the clerical work in organizing the film schedules and the mechanical work necessary in projecting films receive practical training and experience.

This description of a visual instruction center may be considered too elaborate, but it represents facilities for carrying on accepted educational objectives. The cost of such facilities should not exceed those of other specialized services in a school. The military forces use this medium and have set up a regular program for integrating films in their training programs. After the war both industries and the schools will doubtless make further use of instructional films in curricular programs.

Blasting "Enemy" Planes on Screen



AERIAL gunnery is now practiced under simulated aerial battle conditions. The moving figure of an enemy plane is projected against a movie screen while a projector provides the sound of motors. Seamen "blast away" at the swerving images on the screen, thus learning to find battle targets.

This special training unit was developed by Lt. Com. D. L. Hibbard U.S.N.R. of the special devices section

in the Bureau of Aeronautics. It answered a question posed by a gunner who, in actual battle, realized with panic that enemy planes did not stand still and act like practice targets.

The gunner asked: "Why can't we boys get some training in this kind of target shooting under actual battle conditions before we get out here?"

The Navy has found the answer through motion pictures.

SCHOOL FILMS

THIS month's list of films is again from the department of library and visual aids in Newark, N. J.

For the address of your nearest depository write the *Coordinator of Inter-American Affairs*, 444 Madison Avenue, New York City, or the *Office of War Information, Bureau of Motion Pictures*, Washington, D. C.

CAMPUS ON THE MARCH—16 mm. sound. 19 minutes. For social studies classes, grades 9 to 12, college students, parent groups and civic clubs. *Office of War Information.*

This film illustrates the ways in which young men and women are being prepared for war and peace on college campuses throughout the United States.

ON THE FARM—16 mm. silent. 29 minutes. For children from kindergarten to the fourth grade age (social studies). *Harmon Foundation.*

Here are the activities of two children who live on a farm in Michigan. The picture presents their schedule for a day.

FAR WESTERN STATES, MIDDLE STATES, NORTHEASTERN STATES, NORTHWESTERN STATES, SOUTHEASTERN STATES, SOUTHWESTERN STATES—Series. 1 reel each. 16 mm. sound. For social studies classes, grades 5 to 12, and classes in economics and Americanization. *Erpi Classroom Films.*

The series introduces a concept of the United States as a group of geographically and culturally integrated regions. The natural, technological and human resources in each region are pictured.

LAND OF LIBERTY—4 reels, 20 minutes each. 16 mm. sound. For social studies classes, grades 5 to 12, and for adult programs. *Teaching Film Custodians.*

The film presents the history of the United States and the development of its institutions from the days of the early settlers to the year 1938.

DOWN WHERE THE NORTH BEGINS—2 reels. 16 mm. sound. For grades 4 to 12 in social studies classes and adult programs. *Coordinator of Inter-American Affairs.*

Landscapes, buildings and life in Ecuador are presented in color.

THE HORSE—11 minutes. 16 mm. sound. For grades 3 to 8 in social studies classes. *Erpi Classroom Films.*

This film pictures the development and training of a colt from one week to 3 years of age. Emphasis is placed on the saddle horse.

IF YOU'RE MAKING MORE MONEY

...WATCH OUT!



WE WANT TO WARN YOU, before you read this page, that you've got to use your head to understand it.

We also want to warn you that—if you don't bother to read it carefully enough to understand it—you may wake up after this war as poor as a church mouse.

This year Americans are going to make—minus taxes—125 billion dollars.



But this year, we civilians are not going to have 125 billion dollars' worth of goods to spend this on. We're only going to have 80 billion dollars' worth. The rest of our goods are being used to fight the war.

That leaves 45 billion dollars' worth of money burning in our jeans.

Well, we can do 2 things with this 45 billion dollars. One will make us all poor after the war. The other way will make us decently prosperous.

This way the 45 billion dollars will make us poor

If each of us should take his share of this 45 billion dollars (which averages approximately \$330 per person) and hustle out to buy all he could with it—what would happen is what happens at an auction where every farmer there wants a horse that's up for sale.

If we tried to buy all we wanted, we would bid the prices of things up and up and up. Instead of paying \$10 for a dress we're going to pay \$15. Instead of \$5 for a pair of shoes we're going to pay \$8.

This bidding for scarce goods is going to raise prices faster than wages. Wages just won't keep up.

So what will people do?

U. S. workers will ask for more money. Since labor is scarce, a lot of them will get it. Then farmers and business men who



feel the pinch are going to ask more money for their goods.

And prices will go *still higher*. And the majority of us will be in that same old spot again—only worse.

This is what is known as Inflation.

Our government is doing a lot of things to keep prices down... rationing the scarcest goods, putting ceiling prices on things, stabilizing wages, increasing taxes.



But the government can't do the *whole* job. So let's see what *we* can do about it.

This way the 45 billion dollars will make us prosperous

If, instead of running out with our extra

dough, and trying to bid on everything in sight, we buy only what we absolutely need, we will come out all right.

If, for instance, we put this money into (1) Taxes; (2) War Bonds; (3) Paying off old debts; (4) Life Insurance; and (5) The Bank, we don't bid up the prices of goods at all. And if besides doing this we (6) refuse to pay more than the ceiling prices; and (7) ask no more for what we have to sell—no more in wages, no more for goods—*prices stay where they are now*.

And we pile up a bank account. We have our family protected in case we die. We have War Bonds that'll make the down payment on a new house after the war, or help us retire some day. And we don't have taxes after the war that practically strangle us.



Maybe, doing this sounds as if it isn't fun. But being shot at up at the front isn't fun, either. You have a duty to those soldiers as well as to yourself. You *can't* let the money that's burning a hole in your pocket start setting the country on fire.

★ ★ ★

This advertisement, prepared by the War Advertising Council, is contributed by this Magazine in co-operation with the Magazine Publishers of America.

KEEP PRICES DOWN!

Use it up
Wear it out
Make it do
Or do without

CHALK DUST

Lessons from Natural History

WHEN the school bells ring this fall, many a school superintendent will take office for the first time in his career. Consider the turtle, my brethren! He lives and thrives because of two great attributes: a tough, insensitive, impenetrable hide and an ability to move slowly and with great circumspection.

Only upon the most rare occasion does the turtle stick out his neck and then only when he is convinced that danger is far away. Too, he keeps that neck well oiled so that upon the approach of trouble, he can retract in a minimum of time with practically no discomfort. The turtle has no backbone and he gets along nicely without one.

Daily the turtle plods from here to there. Where is he going? Who cares? Obstacles and bumps in his path halt him only temporarily. Who ever heard of a turtle who couldn't get to sleep at night because he was worried about his curriculum?

The public relations of a turtle are most commendable. The Good Book tells us that the turtle goes singing about the land. But, note! He doesn't sing in a loud or offensive manner. You never heard him sound off at the wrong places or times, did you?

The turtle lives to a ripe old age. Only a 10 ton tank could squash him. For all we know, when the turtle reaches the age of 70 he may be able to retire on a moderate income and become a candidate for the board of education of his home town. Sometimes in moments of pique when we consider our own board, we wonder!

Freedom's Fabric

THE planning and the pattern of the Four Freedoms are being fabricated on the battlefields of a thousand places but the warp and woof must be woven in the public schools.

For here the sons and daughters who will inherit the house now-a-building are learning to comb out the strands of tolerance and free speech. Here they are taught patiently to untangle the knotty threads of economic interdependence. Here they learn to discard the unfit materials of superstition and misunderstanding.

The firmness, the strength, the endurance and the glorious coloring of the finished work will be determined in large measure by the teachers of

boys and girls. Will you not strive then, Teacher, for the skill and understanding of a master craftsman?

Famous Last Words

"I am not running this school in order to win football games."

"Come hell or high water, I shall not sign this diploma."

"In order to obtain real economy, I propose a substantial increase in the tax rate."

"Your child, Mrs. Twitter, is not as bright as you imagine."

"Gentlemen, the time is ripe for a new Building Program."

On Taking the Census

FOR many schools, August is the month for counting noses.

In the great centers of population, the directors of attendance spend the dog days in revising their filing systems and compiling statistics.

In lesser schools, the school nurse arms herself with census cards and, praying for larger families, goes into the hinterland at 5 cents a child.

But in the littlest schools, those grass roots of democracy, the principal may discover this particular year that the census appropriation is too small a plum to excite the local political boss, and, ergo, he himself must sally forth.

It is not a demeaning task, O Great One, thus to visit the homes and bicker with the dogs of constituents. 'Tis no ignoble thing to talk to doting mammas who mistakenly think that their progeny is capable of reaching high school unscathed. 'Tis not an unworthy ambition to Meet the People.

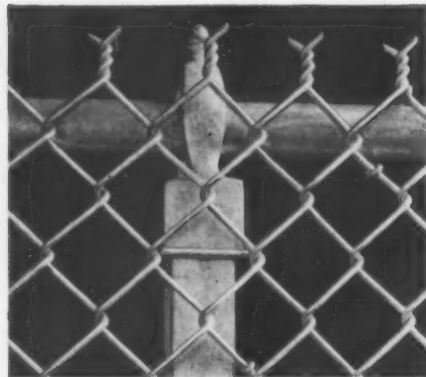
So lift up your head as you go about inquiring as to the state of health and labor of your district. This is public relations at its best. This is school interpretation in its soundest form. It is good for the soul if not for the ego.

THOUGHT FOR THE MONTH

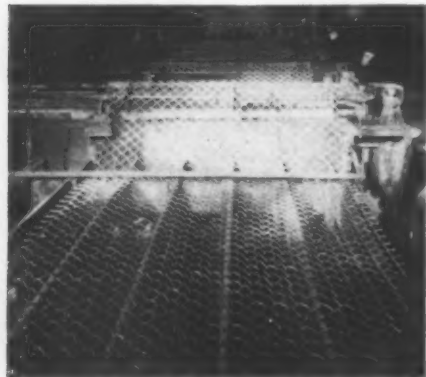
The trouble with supervision, says Brother Hamilton of Oak Park, Ill., is supervisors. Some supervisors have no vision and others have vision but it isn't super.

Frederick J. Hamilton

The NATION'S SCHOOLS



Continental Chain Link fence for schools and universities is designed for strength and pleasing appearance.



To insure that no spot on the base metal goes unprotected, Continental Chain Link fence is carefully galvanized after weaving. Below: Trained crews erect Continental fence, or fence engineers can direct local workmen.



War requirements now take the full production of Continental Chain Link fence. To help you plan fence installations for completion after the war, Continental offers you a free 48-page fence manual. Remember, only Continental fence is made of KONIK* steel and has 14 advanced features of construction.

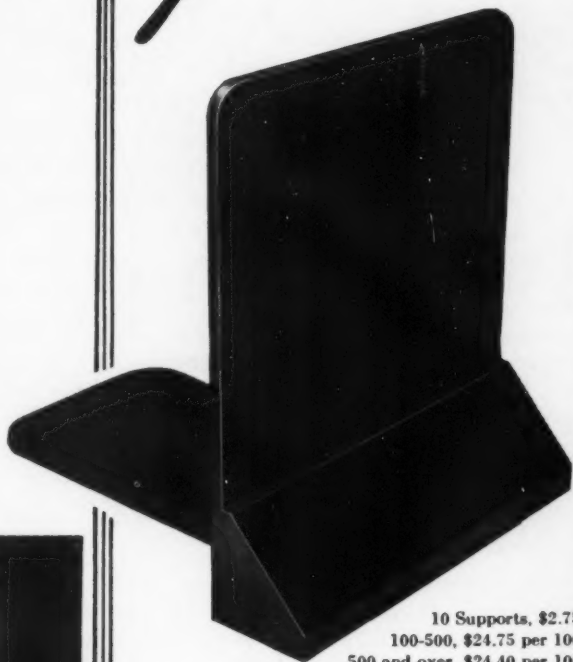
* (War needs now restrict the use of copper, nickel and chromium in KONIK steel.)

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Gaylords' LATEST WAR BABY!



10 Supports, \$2.75
100-500, \$24.75 per 100
500 and over, \$24.40 per 100
Transportation Paid

★ Steel is being put to grimmer uses than supporting books on library shelves. But, if the goals for which we are fighting are to be achieved, libraries must continue in business. They need book supports, so here is Gaylords' alternate, made of wood and fiber board—and who knows, perhaps the alternate may prove more popular than the original!

★ The weight is almost the same as that of the steel book supports. It is strong and sturdy, and handsome enough for desks and tables as well as shelves. The base is smooth, so that it will not mar shiny surfaces. It is lacquered in brown or olive green. Prompt shipment is possible at present.

GAYLORD BROS., INC.

Syracuse, N. Y. Est. 1896 Stockton, Calif.

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is non-irritating and non-toxic in wounds. It has a background of twenty-two years' clinical use. Solutions keep indefinitely. Be prepared with Mercurochrome for the first aid care of all minor wounds and abrasions. In more serious cases, a physician should be consulted.



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BALTIMORE, MARYLAND

Industry Is Robbing Our Classrooms

By MILDRED WHITCOMB

The War Department rules that high school careers are no longer to be interrupted for Army service, yet the lure of high paid industrial jobs is "double-decimating" secondary schools in a number of cities.

Take Philadelphia's 29 per cent exodus of high school undergraduates last year for full-time employment! Or Birmingham's 20 per cent loss to industry!

Nor are Los Angeles' losses of 15 per cent, Toledo's and Detroit's of 12 per cent, Baltimore's of 11 per cent anything for schoolmen to take calmly.

What can be done to stem this flow? How many of these youngsters leaving school at the end of the eighth or tenth or eleventh year will ever return to the classroom?

What about the health and scholastic standing of the millions who are working outside of school hours? What can be done to curb the greed of employers who are hiring children of 11 and 12 for after-school jobs?

Drain on Schools in 11 Cities

To find the facts and to gather suggestions on solving some of these problems, *THE NATION'S SCHOOLS* has made a quick survey of 11 cities in areas of critical labor shortage.

In Seattle, Wash., and Gary, Ind., it finds that conditions are excellent so far as boys and girls leaving high school are concerned. Only 1 per cent of the senior high school youngsters have taken full-time jobs despite the airplane and ship-building industries in the Northwest and the fiery steel mills of Indiana.

Contrast this with Philadelphia where between July 1, 1942, and May 31, 1943, a total of 44,573 full-time work certificates was issued to pupils of 16 and 17.

Many general employment certificates (10,147 in the last year) have been issued for full-time work to Philadelphia pupils in the seventh, eighth and ninth grades. Almost a thousand more permits have gone to pupils who have completed only the sixth grade or less, A. O. Michener, associate superintendent, reports.

In Providence, R. I., during the school year recently closed about 20 per cent of the tenth grade pupils and 60 per cent of the twelfth graders were working a four hour shift outside of the regular school day. "Some are working very much longer hours," Alice L. Weeks of the school guidance and placement office reports sadly.

Toledo isn't sure either that the 900

junior and senior high school boys and girls who are working after school are not overdoing physically and underdoing scholastically.

Detroit asserts that 80 per cent of its secondary school pupils are working outside of school hours. In Seattle, it's 50 per cent, with the school system attempting to supervise the work.

Unquestionably, employers in some areas are violating both federal and state child labor laws by accepting inconclusive evidence of age. Some children are said to be adding as much as three years to their ages in order to work in factories.

In those states in which the school systems issue the work permits both under state and federal laws, placement offices are being kept busy notifying employers that certificates cannot be issued because a verification of the birth date shows the boy or girl to be under 16.

Employers, noting the fact that minors are equipped with social security cards, consider that fact sufficient authorization for them to employ the children under any type of working conditions.

The West Coast has taken leadership in the development of part-time work and part-time schooling arrangements with war industries when the labor shortage is critical. The more familiar

work experience programs widely followed in retailing and certain other occupations have been extended to include war work in various cities, such as Los Angeles, San Diego and Inglewood, Calif.

Reports F. M. Hoyt, assistant to the superintendent of Los Angeles schools:

"We have many thousands of pupils who are working four hours a day and attending school four hours a day. The war industries employ several thousands and retail stores perhaps a thousand or more."

In San Diego some 200 pupils are working in aircraft industries as well as on nondefense jobs in addition to their regular six hour school program.

On the basis of this work experience program, the administrative planning committee of the San Diego school system made a tentative evaluation of the plan, H. B. McDaniel, the vocational guidance coordinator, reports.

The consensus is that from the standpoint of employers, pupils and parents the work experience program may be called a success.

The teachers, however, aren't so sure. Although 74 per cent of them think the plan worth while, 21 per cent are in doubt and 5 per cent are opposed.

Forty-one per cent of the teachers say that student achievement in school has declined, while only 12 per cent think it has shown improvement in their subjects.

The major implication from the tentative study is that the work experience program must go on because it has met the needs of a large number of young people and it has aided the war effort materially.

WASHINGTON NEWS

By EVA ADAMS CROSS, Special Correspondent

Child Labor in Canneries

Schoolmen should acquaint employers and parents, now that the canning season is on, with federal and state laws relating to employment of young people. Teen-age boys and girls working this summer in war-important food processing plants are under the protection of state and federal laws, the Children's Bureau points out. These vary in many details. Whether the state or federal law sets the higher standard, the higher standard prevails.

The safe and sane rule to be followed by most employers is the requirement of an age certificate. Such a certificate should be obtained from all workers under 18 years and should be kept on file by the employer. The certificates, usually issued by local school officials, not only protect the child but safeguard

the employer against unintentional employment of minors contrary to law.

All establishments engaged in canning, quick freezing, dehydrating, drying and packing fruits, vegetables and seafoods are subject to the child labor provisions of the Fair Labor Standards Act, if they produce any goods for shipment in interstate commerce. Since practically all such establishments do, care should be taken that children recruited for work are of the legal age for employment.

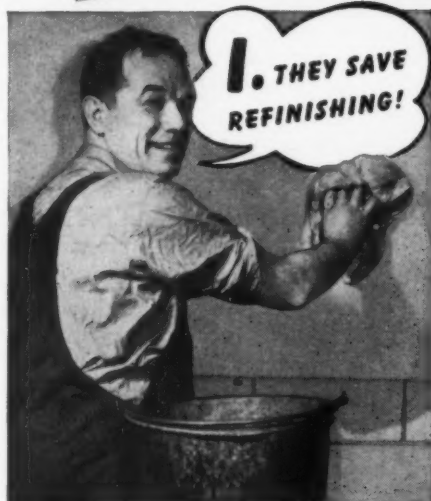
Under federal law the minimum age for persons engaged in the above described operations is 16 years. In dry yards where prunes, raisins, dates, peaches and similar fruits are given sun and warm air treatment to convert them into dried fruits, boys and girls of 14 and 15 (but none younger) may cut and sort fruit under special conditions. They

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IT PAYS to standardize on Colgate-Palmolive-Peet maintenance soaps, as many large schools have discovered. For one thing, we can supply the right soap for every cleaning job. And, there's the convenience of getting all your soaps from one dependable source.

Most important, though, are the economies you effect, because C.P.P. maintenance soaps save in three important ways. *First*, they save expensive refinishing! *Second*, they save time and labor! *Third*, they save in material costs!

Before you order your next supply of maintenance soaps, call in a Colgate-Palmolive-Peet representative and ask for details on the full line of C.P.P. maintenance soaps. Or write direct to our Industrial Department at Jersey City, N. J.



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may not work in proximity to sulphur kilns. For other work in dry yards, the employe must be at least 16 years.

Some young workers may be sent into packing sheds where fresh fruits are wrapped and crated in their natural state for shipping. The minimum age for the younger worker taking a job like this is 14, provided he goes to school. If he doesn't go to school, he must be 16. When school is not in session boys and girls 14 or older may not work more than eight hours per day in the packing sheds. Normally, they may not work after 7 p.m. or before 7 a.m. During eight weeks of the year, however, the

young worker may stay as late as 10 p.m., packaging perishable fruits or vegetables. Under no circumstances may boys and girls of 14 and 15 work more than forty hours a week.

When school is in session the maximum number of hours the 14 and 15 year old workers may be in the shed is three; the maximum number of hours per week they may work during the school year is 18.

Children of 14 and 15 may work in canning, dehydrating and freezing plants if they do office work or are engaged in employment not involving manufacturing or processing. They may have no

duties in workrooms in which foods are processed.

Deferment for 18 and 19 Year Olds

President Roosevelt signed the high school deferment bill on July 9.

The legislation permits high school pupils, 18 and 19 years of age, to obtain draft deferment until the end of their current academic year, if they are called for induction during the last half of the academic year, provided they are doing satisfactory work.

School Lunches to Continue

The school lunch program will go on, following the passage by the Senate before its recess of the Agricultural Appropriations Bill, which included a \$50,000,000 appropriation for subsidies for milk and school luncheons. Aid is available to nonprofit schools conducting nonprofit feeding programs.

Action on Bills Delayed

The High School Victory Corps and federal aid bills will probably not be acted upon during the 1943 session of the 78th Congress and the War Area Child Care Bill seems to have been stymied on several counts.

Army Scholarships for Age 17 Reservists

The creation of the Army Specialized Training Reserve Program under which qualified high school graduates between 17 and 18 years of age will be granted military scholarships providing for basic instruction at selected colleges and universities was announced by the War Department on June 25.

The reserve program is limited to those volunteers who received qualifying scores on the preinduction test administered last April 2 and to those who will qualify in the future on similar tests. The next test is scheduled for early November.

Instruction in the reserve program is to begin this summer. Selection of reservists followed close on the heels of the announcement, the first group being chosen from those who qualified in the April 2 test and who will not have attained their 18th birthday prior to August 15. A maximum quota of 25,000 of these A.S.T.P. Reservists has been established by the War Department. This is in addition to the quota of 150,000 set for the number of soldiers participating in this program at any one time.

The military scholarship will provide for payment of tuition, mess, housing and such medical service as is customary at the institution. In general, qualified candidates must:

1. Have a high school education.
2. Have passed their 17th birthday, but their 18th birthday must not occur prior to Aug. 15, 1943.



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SAFER!! CHEAPER!!!

NOW you can eliminate all special cleansers for school floors. You can do all cleaning with one product—Floor-San—and save time, money and labor.

You can use Floor-San with absolute safety on rubber tile, asphalt tile, linoleum, terrazzo, wood, or any other flooring. What's more, you'll get a *thorough cleansing job*, for Floor-San has powerful detergent properties which quickly rout dirt.

By using Floor-San for all floors, you save time for yourself and your janitor. You need buy only one product—Floor-San—and your buying is done. The janitor also saves time because he need not prepare any special cleansers.

Floor-San Scrub Compound has received approval of the Rubber Flooring Manufacturers Association. It is also endorsed by asphalt tile manufacturers. Such approval means that Floor-San is *mild*... won't discolor... won't run colors.

Begin now to use Floor-San and get the job done *quicker... safer... cheaper!*

THE HUNTINGTON LABORATORIES INC
DENVER HUNTINGTON INDIANA TORONTO

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3. Have passed the A-12 preinduction test.

4. Be voluntarily enlisted in the Enlisted Reserve Corps.

5. Meet physical requirements for general service enlisted men.

Students while still on reserve status will not be entitled to Army pay or to the benefits that are provided by law for soldiers on active duty.

Free College Tuition Proposed

Introduced in the Senate July 1 by Senator Pepper was a bill that would provide free college tuition and low interest loans up to \$1200 a year for maintenance while studying to persons honorably discharged from the Army.

The proposed legislation provides for government payment of tuition, books and fees for any person, either male or female, who has been honorably discharged from the armed forces or merchant marine and who wishes to continue his schooling at any institution of his choice.

Loans up to \$1200 would be granted through the U. S. Commissioner of Education without collateral at 1 per cent for living expenses of the war service person and dependents.

Funds for War Training Films

The appropriation for the U. S. Office of Education for this fiscal year is the same as that of last year, according to an official in that office, except that the amount for war training films has been doubled, \$2,000,000 having been set aside for this purpose.

Disposal of N.Y.A. Facilities

Vocational education leaders hailed the resolution introduced in the Senate July 7 to turn over facilities of the National Youth Administration, whose activities have just been terminated, to state, county or municipal vocational schools.

Although full disposition of this property, estimated as totaling some \$55,000,000, has not at this date been entirely agreed upon by the legislative bodies, a tentative compromise agreement was reached on July 8 by the House and Senate. N.Y.A. facilities now being used by the schools can continue to be lent for use for vocational purposes during the war and for not more than six months thereafter.

Government agencies have prior consideration for the rest of the property after which such property as may be left can be lent for the purpose of public vocational education.

The District of Columbia branch of N.Y.A. shut down its training program and dismissed 345 trainees July 7 following the dissolution by Congress of the eight year old organization. One of, perhaps, 500 such projects throughout

Fascinating



How DEVOPAKE hides and covers any surface in just one coat!

And it is fascinating to see just what Devopake does to *any* interior wall surface. It *hides solidly* in one coat . . . it assures good seeing conditions because it provides maximum reflection and diffusion of available light.

Alert maintenance men choose Devopake because it saves time *and* money. The *spreading quality* of Devopake cuts gallonage; application time is lessened by its *big brush workability*. Because it's a *self-sealing primer and finish coat all in one* the usual preliminary undercoating is eliminated. Man hours, vital during war times, are saved.

Devopake is an *oil-base* paint. You can depend on it to give walls the utmost protection . . . condition them to withstand repeated washings. Today Devopake is manufactured in 7 practical colors.

Our strong claims for Devopake are fully substantiated

by our customers' experiences. Discover for yourself the many advantages of this outstanding Devoe paint.

DEVOPAKE PAINTS



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the nation, the Washington training center began its war training program about a year ago. Nearly 2000 youths have been trained for war work in welding, sheet metal work, drafting and radio construction.

More Tools Available

The amendment of Order E-6 on June 12 should make tools more generally available, an official of the schools and colleges section states. The amended order is designed to bring about a better distribution of tools among consumers and prime procurement programs and to provide for the orderly placement of

prime contracts within the capacity of the industry. The order sets aside from 20 to 25 per cent of the monthly production of specified tools for commercial distributors.

Laboratory Materials Eased

The schools and colleges section, W.P.B., has interpreted Orders P-43 and L-144 as amended on June 26.

Schools not assigned a serial number for their laboratories (serial-numbered labs are for research work) are entitled to use an AA-2 rating for laboratory materials, rather than the former lower rating of AA-4. Serial-number labora-

tories get the AA-1 rating for research activities essential to the war and the AA-2 for teaching materials.

The new P-43 provides a means of obtaining controlled materials in small amounts and provides an allotment symbol and a preference rating for such orders.

Inasmuch as many schools place relatively small orders for laboratory items, the filing of WPB-1414 is now necessary only in the following cases:

1. When the entire order to any one firm at one time will total \$200 or more.
2. When one item of laboratory equipment has an individual cost of \$50 or more.
3. When a quantity of the same item will cost \$50 or more.

In cases in which application on WPB-1414 is necessary and when the application is approved, the certification found in (d) (2) of L-144 must be applied to the order in addition to the certification found in P-43.

Previously, L-144 required a certification as to the use of laboratory equipment and imposed certain restrictions on the right to make certification. The present amended order eliminates the requirement for such certification.

More Scissors, Kitchen Cutlery

Increased production of cutting tools and a stepped-up output of kitchen cutlery are anticipated through the issuance July 5 of Limitation Order L-140-a. Greater supplies are promised in scissors, shears and kitchen cutlery. The only specific exclusions from the order are silver-plated flatware, surgical instruments and articles subject to Order L-30-d (miscellaneous cooking utensils). Production of silver-plated flatware is covered by L-140, the old cutlery order.

Maintenance Supplies for Year

An educational institution, according to a statement of the schools and colleges section, W.P.B., on July 7, may purchase or contract for a year's supply of maintenance, repair and operating supplies. In accepting delivery of these materials, however, the institution is restricted in accordance with the terms of CMP Regulation 5A, paragraph (f), also the inventory restrictions of Priorities Regulation No. 1 as well as CMP 2.

Physical Fitness Program Launched

The Committee on Physical Fitness held its first meeting June 16. Its formation was the result of a growing recognition of the need for increased physical fitness among the civilian population, declared Paul V. McNutt.

John B. Kelly as chairman authorized plans and a policy and nominated a Wartime Council on Physical Fitness

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SHE CAN OPERATE A MONROE**

War production has created an unprecedented demand for figure workers. The students who come out of your school trained in Monroe operation, not only better themselves but also help directly to speed up war work.

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1. Guaranteed Maintenance Service through regular inspections by trained mechanics who will keep your Monroes operating efficiently.
2. A 30 Lesson Office Practice Course in the elements of business arithmetic and Monroe operation.
3. An advanced School Manual of Instruction of 200 pages that will help you give the increased training needed to meet the wartime demand for figuring skill.
4. Advice on special problems for advanced classes. To use your Monroes to the full and to keep them operating day in and day out—take full advantage of Monroe's wartime service. Call the nearest Monroe branch for full details or write to our Educational Department.

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ORANGE, NEW JERSEY



the main function of which will be advisory.

To promote the establishment of effective state and community organizations and to encourage physical fitness programs in schools and colleges is the committee's aim.

Child Care Centers in 46 States

According to the Federal Works Agency, 46 states now have war nurseries and child care centers, a total of 3291 serving 182,160 children.

Too Many School Fires

The War Production Board recently manifested its concern over the huge number of requests for new schools to replace those destroyed by fire.

According to the National Board of Fire Underwriters, school property valued at \$5,000,000 was destroyed in the first quarter of this year alone. This means that more than a million dollars' worth of school property a month is lost through fire.

Positive measures to prevent fires are recommended. Among the measures are:

1. Make a careful tour of inspection of the school building.
2. Examine electrical wiring. If found to be hazardous, repair in accordance with the National Electric Code.
3. Examine the heating plant and correct all faulty conditions. Pay particular attention to flues, air ducts, natural gas lines and fuel oil lines.
4. Inspect closets, locker rooms, storage rooms, attics and basements.

If fire does destroy a school, warns a schools and colleges section official, only the bare essentials will be allowed for putting up a new building. No auditorium or gymnasium will be permitted.

INSTRUCTION

Rural Teacher Shortage

Alarmed over the increasing vacancies in rural schools, Margaret Hickey of W.M.C. urges women's groups to initiate national and local campaigns to emphasize the importance of education.

Last year it was necessary to fill more than 100,000 vacancies in rural schools and the need this fall will be even greater, Miss Hickey predicts.

The suggested program follows:

1. Campaign against restrictive hiring specifications with regard to marital status and religion.
2. Influence local school boards to raise teachers' salaries within W.L.B. limitations.
3. Initiate campaigns to emphasize education as an essential activity so that teachers and potential teachers will understand they are engaged in such an activity.

4. Urge women who have left the teaching field because of marriage to return for the emergency.


5. Urge high school graduates to enroll in teacher training courses.

6. Persuade inexperienced teachers and those returning to the field to enroll in refresher courses.

Miss Hickey emphasizes the fact that one of the major reasons for resignations among teachers in rural communities is their relatively low income. In school districts where substandard salaries are paid, women's organizations can be instrumental, she declared, in effecting increases.

Keep Profs in Stand-By Status

Recommendations for keeping college teachers in stand-by status until after the war were recently made by John Dale Russell, professor of education, University of Chicago. He stated that colleges should (1) convert teachers to war-time instruction; (2) utilize teachers in expanded adult education programs; (3) arrange schedules to permit teachers to take part-time jobs outside the college; (4) organize for transfer of teachers to institutions in need; (5) arrange leaves of absence for further study, and (6) assign teachers to work on insti-



**Essential
IN THE CLASSROOM**

As Peace nears, the future of motion pictures looms increasingly large on the educational horizon. Army experience in speeding the training of fighting men and specialist groups—coupled with industrial experience with moves to speed unskilled workers to profitable production levels—combine to assure major consideration for Audio-Visual Education as soon as projectors are available.

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tutional problems, such as planning postwar programs.

No Religious Teaching at N. J. School

A plan of voluntary religious instruction for the grammar school in Milltown, N. J., was recently prohibited by the state commissioner of education, Charles H. Elliott.

Acting on an appeal by a group of parents, Mr. Elliott cited the New Jersey statute which decrees that "no religious service or exercise, except the reading of the Bible and the repeating of the Lord's Prayer, shall be held in any

school receiving any portion of the monies appropriated for the support of the public schools."

According to the plan, school was to have adjourned from 11:10 to 11:45 a.m. each Wednesday to permit "instruction in religion, morals and other social studies to those persons desiring such instruction."

Quebec Raises Standards

School attendance for all children under 14 years of age is now mandatory in Quebec Province, Canada, according to recent legislation. There is now an

equal standard of free instruction throughout the Canadian provinces.

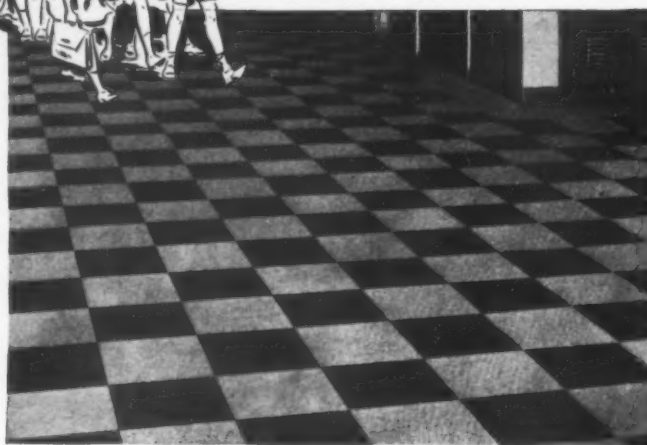
Catholic Bishops Against S. 637

On record against Senate Bill 637 (appropriating \$300,000,000 for federal aid to schools—\$200,000,000 of which would go to the payment of teachers' salaries) is the administrative board of bishops of the National Catholic Welfare Conference.

The director of the educational department of N.C.W.C. stated that experience has proved "whenever there is federal aid, there must of necessity be some federal control."



Today— *School Flooring* must do double duty!



NOW is the time to check the condition of floors in your school. For the overcrowding and extra classes of the past term mean they have been receiving more than the normal amount of wear.

If any of your floors need replacing, consider the advantages of Johns-Manville Asphalt Tile Flooring. Combining the toughness and durability of asbestos and asphalt, it will stand up under heavy traffic for years, and provide a floor covering that is quiet and comfortable to walk on.

J-M Asphalt Tile Flooring requires practically no maintenance—a most important consideration under present help-shortage conditions. It is economical to buy—and economical to own. And it comes in a wide range of attractive colors and patterns which afford an almost unlimited choice of combinations.

A full-color brochure, illustrating many of these colors and patterns, is yours for the asking. Write Johns-Manville, 22 East 40th Street, New York 16, N.Y., for a free copy.

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TRANSPORTATION

Keeping Buses in Condition

The Office of Defense Transportation advised school bus operators July 2 how to store their idle vehicles for the summer so that buses will be in good shape for transporting pupils to school in the fall.

O.D.T. emphasized the need for careful maintenance of idle equipment and warned that serious deterioration might result if buses are left outdoors or otherwise neglected. Taking advantage of the off-school season, school bus operators should have their vehicles overhauled and necessary repairs made.

A detailed procedure is outlined by the Office of Defense Transportation for the care of the bus from the washing and painting of the vehicle to the proper care of the windshield wiper, chrome plated surfaces, engine, fuel system and carburetor, spark plugs, brakes, tires, batteries and cooling system.

N.E.A. in Pittsburgh for '44

The N.E.A. will meet in Pittsburgh for the 1944 convention. Five officers have recently been elected by the board of directors. Edgar G. Doudna was re-elected to the board of trustees. John Thalman and Glen E. Snow are again executive committeemen. New budget committee members are L. Frazier Banks of Birmingham, Ala., and Marguerite Morse of Clearwater, Fla.

PUBLICATIONS

Superintendent Reports on 1942-43

A comprehensive report on the year 1942-43 for the schools in Eagle Grove, Iowa, has just been released by the superintendent, C. L. McDowell. The report, stencil duplicated, contains general information about the schools, teachers' reports, financial statements and child accounting.

Book List for Children

The first edition of "The United Nations Children's Books," a list planned and selected by the Council on Books in Wartime, has just come off the press. For children from 5 years of age on up, the list presents stories on the British Commonwealth, Russia, America to the South, China, the Philippines and Europe.

Recipes for Lunchroom Dishes

A number of recipes for school lunches (in quantities for 50 servings) have been prepared by one of the instructors in a special course for lunchroom managers held this summer at the University of Alabama. Copies of the recipe pamphlet are 35 cents and may be secured by writing to Ben E. Harris, University of Alabama, Tuscaloosa.

Use Newspapers, Periodicals

Schools and colleges are neglecting newspapers and periodicals as teaching materials, according to Edgar Dale, professor at Ohio State University, during a recent conference on reading at the University of Chicago.

Recommending that schools organize war information programs utilizing material from newspapers, the radio and motion pictures, Mr. Dale cited surveys which showed that the general public is ignorant of important war moves and said that the same was true of school and college students.

Management Reorganized

The management of the school system in Fair Lawn, N. J., was reorganized at a recent meeting of the board of education. All powers were delegated by the board to a governing council consisting of principals of the five elementary schools and an advisory committee of members of the school board.

School War Activities in Pamphlet

A recent pamphlet in red, white and blue testifies to the many war activities of schools in Ventura County, California. Entitled "In the Service of Our Nation," the booklet is illustrated and shows pupils and teachers actually at work.

Explaining Sex to Children

Human reproduction is simply explained for children in Marion L. Faegre's new booklet, "Your Own Story." Endorsed by Haven Emerson, M.D., the book is an attempt to provide answers to some of the questions young children ask about sex. The author is assistant professor of parent education, Institute of Child Welfare, University of Minnesota, and special consultant to the Minnesota Department of Health.

NAMES IN NEWS

Superintendents

J. Warren Ayer, for the last four years superintendent of schools at Eureka, Calif., has retired. He is succeeded by **H. W. Adams**, superintendent of schools at Silverton, Ore.

Joseph M. Sheehan, assistant superintendent of schools in New York City, has been retired on half pay after 35 years of service with the school system.

E. J. Dalton has resigned as superintendent of schools of Gary, S. D.

Joe C. Rice, superintendent of schools at Martinsville, Ind., is the new superintendent at Frankfort, Ind., on a three year contract.

Ray Link, for the last six years a mathematics instructor in the high school at Albion, Neb., has accepted the superintendency at Elgin, Neb.

G. Warren Phillips is the new superintendent of schools at Griffith, Ind.

Ernest F. Forbes has accepted the superintendency at Attleboro, Mass., where he will replace **Louis A. Fales**.

Clark W. McDermith, superintendent of schools at Laconia, N. H., has been selected as the new superintendent at

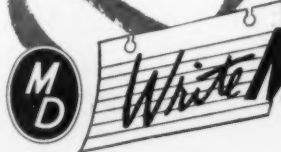
AMAZING FACT No. 2 ABOUT M-D DUSTLESS BRUSH...



Above is a cross sectional view of metal reservoir, showing jets through which fluid is fed. The use of fluid eliminates sweeping compound, reduces germ laden dust, lengthens the time between scrubbing. It also keeps tufts pliable, reduces friction and greatly prolongs the life of the brush.

This "Dustless" brush is self-moistening. It has a metal reservoir which is easily filled with kerosene, or "Arbitrin", a specially prepared sweeping fluid. As the brush sweeps the fluid filters through the center row of tufts, making the best kind of sweeping compound out of dust on the floor. Independent tests by Health Authorities for a large number of schools have proved that this brush removes 97 per cent more dust from air than other sweeping methods.

The "Dustless" brush also makes for faster and easier sweeping and is constructed to outlast ordinary brushes three to one. Tufts are not just stapled but hand drawn into block with rust-resistant wire. They cannot come out or come loose. Pressed steel reinforcing back is clinched all around the block to prevent splitting. Handle is instantly reversible and adjustable to height of sweeper. There is a "Dustless" brush for every kind of floor. For complete information and prices, write direct to factory: Milwaukee Dustless Brush Co., 528 North 22nd Street, Milwaukee 3, Wisconsin.



Milwaukee Dustless
BRUSH COMPANY

Salem, Mass. He succeeds **George P. Bemis**, who died recently.

John Weisenee, superintendent at Onawa, Iowa, has resigned to accept a position with the Firestone Tire & Rubber Co. at Akron, Ohio.

Arthur E. Pierce, superintendent of schools in Bangor, Me., has resigned to accept a position in Wellesley, Mass.

Principals

William Prakken, principal of the high school at Highland Park, Mich., has retired. Mr. Prakken is 67 years old and has held his position since 1934.

Ambrose R. Nichols, principal of the technical high school at San Jose, Calif., has retired after holding his position since 1926.

D. Leo Daley, formerly head of the department of English at English High School in Boston, has been appointed headmaster of Mechanic Arts High School in that city. He succeeds **Adelbert H. Morrison**, who has retired.

Cecil E. MacDonald, assistant principal at the Central High School in Bay City, Mich., has been appointed principal of the high school at Menominee, Mich.

Vilas O. Bates, principal of the junior high school at Coldwater, Mich., has resigned to become principal of the high school at Farmington in the same state.

H. Edgar Pray, principal of the high school at Stowe, Vt., has been selected as principal of the junior high school at West Springfield, Mass. He replaces **Norval B. Spinney**, who has retired.

Joseph B. Brown is the new principal of the high school in Valparaiso, Ind. He succeeds **Homer M. Jessee**, who resigned.

Donald F. Piper succeeds **Willard H. Smith** as headmaster at Tilton-Northfield High School, Tilton, N. H.

Russell B. Gill has been appointed principal of the high school at Petersburg, Va. Formerly principal of the Louisa County Consolidated High School in the same state, he succeeds **John D. Meade**, who has accepted the superintendency at Petersburg.

Anne Achenback, **John B. Hambright** and **Emma Lehlbach**, all principals in Newark, N. J., have recently retired.

M. H. Bell is the new principal of Lexington High School in Lexington, Va., succeeding **Harrington Wadell**, who has resigned.

Private Schools

Crosby Hodgman, assistant headmaster of the Chicago Latin School, has been appointed headmaster of the Beaver Country Day School, Chestnut Hill, Brookline, Mass. He succeeds **Eugene Randolph Smith**.

Vernon Brown Kellett has been appointed headmaster of St. James School near Rockville, Md. Mr. Kellett has been at Cranbrook School, Bloomfield Hills, Mich., for the last fourteen years.

In the Colleges

Mrs. Harriet M. Lyon has retired as principal of the elementary laboratory school at Marshall Teachers College, Huntington, W. Va.

Einar William Jacobsen, dean of the school of education of the University of Pittsburgh, has accepted the presidency of the University of Louisville, Louisville, Ky.

Harry S. Ganders, dean of the school of education of Syracuse University, has recently been appointed part-time consultant on education for the Manlius School, Manlius, N. Y.

Miscellaneous

Walter F. Downey has resigned his position as state commissioner of education in Massachusetts to return to his former position as headmaster of English High School in Boston.

Ruby Cloyd, teacher at Lafayette High School in Fayette County, Kentucky, was recently appointed dean of the Kentucky Female Orphan School at Midway, Ky.

Ever Wear

facilities for manufacturing

- Playground Apparatus
- Swimming Pool Equipment
- Basket Ball Backstops

*are now devoted
entirely to war work.*

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Keep in mind that we are planning ahead for the time when Victory is won—and the experience we are gaining will help to make available in the future an even finer line.

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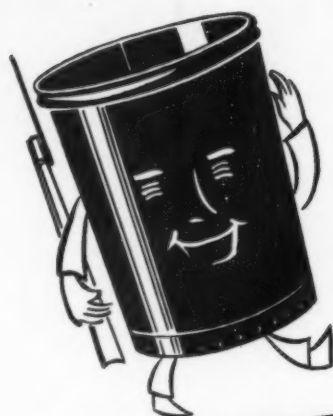


During this critical period when replacements are not available, users are finding that Norton Door Closers have what it takes for maximum service. Make sure of longer trouble-free life for your Norton Door Closers with careful maintenance and periodic check-ups. Write for maintenance folder.

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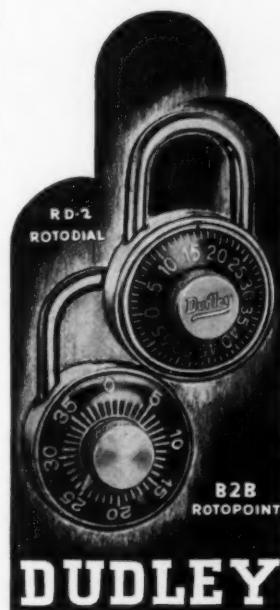
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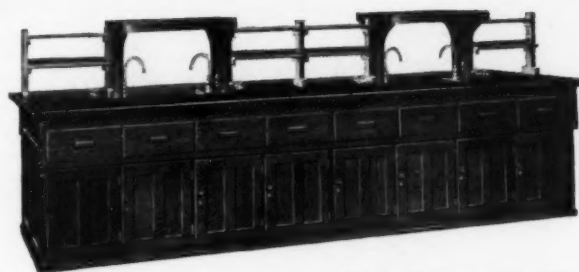
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WHAT'S NEW

Wood Stools for Heavy Duty

Connections Double-Doweled

Royal heavy-duty wood stools are built to last, according to the manufacturer. The legs are of hard wood 1 1/4 inches square with rounded corners. Wooden leg braces are 1 1/4 inches by 3/4 inch and the hardwood reinforcing apron under the seat is 2 inches by 3/4 inch. Double-doweled connections between legs and leg braces assure rigidity and prevent wobbliness, pulling apart or breakage, it is stated. Legs are equipped with hardened metal glides. The entire stool is finished with a combination stain-sealer in natural oak color.—Royal Metal Manufacturing Company, 175 North Michigan Avenue, Chicago.



● When inquiring, refer to NS514

Drill Press Sealed Against Hazard

60 Models Ready in Four Types

The Helmet Head Drill Press is sealed against all common hazards, according to its manufacturer. More than 60 models are available in one, two, three or four spindle types with high and low speed, suitable for bench or floor or slotted or trough table.



Features of the drill press are five speeds and a new self-centering 30 degree pressure angle six tooth involute spline. It is stated that the spindle, quill and spindle-pulley are held in permanent alignment. The quill is held by three bearings, thus permitting long holes to be drilled accurately.

Tapping machines designed for the helmet head operate at 3000 r.p.m. "in" and 6000 r.p.m. "out." These are available in two sizes.—Boice-Crane Company, 975 Central Avenue, Toledo, Ohio.

● When inquiring, refer to NS515

Address manufacturers for further information

Hardener Penetrates and Colors

Requires No Preliminary Etching

Dye-Crete Color Hardener, says the producer, eliminates the need of etching concrete to neutralize the alkaline content. Yet this product penetrates walls or floors and carries color into cement.

Available in six colors, the material is applied first in a primary coat of desired shade. After a drying period of from one to two hours, a finish coat of Dye-Crete Defense Coating is applied.

Where no color is required on a floor, the clear material is applied in two coats, the first being allowed to dry for twelve hours before the second is applied.

One gallon of this product should cover between 250 and 400 square feet, depending on the surface, it is stated.—Wilbur & Williams Company, Park Square Building, Boston.

• When inquiring, refer to NS516

Screen Unit Available Now

Pictures Screened in Daylight

Here is a new screen unit that is available now for educational use. Designed primarily for the armed forces, the Radiant Day-Time Projection Box permits pictures to be shown in broad daylight by means of a shadow box construction. The unit is easily set up, according to the manufacturer, and height may be adjusted to four different positions. It folds compactly into a storage case. Films or slides can be shown to audiences of 150 persons.—Radiant Manufacturing Corp., 1140-46 West Superior Street, Chicago.

• When inquiring, refer to NS517

Plastic Nozzles for Fire Fighting

Available for Standard Hose Sizes

Plastic nozzles are a new essential in fire-fighting equipment. Corrosion-proof, nondenting, highly resistant to acid and alkalis, liquids and water content, these nozzles hold their shape perfectly and are good for practically lifelong service, says the manufacturer.

Nozzles are of two types. One is for a two-way or split stream, to form a spray when needed, as in fighting incendiary bombs. This type can also be operated for a one-way stream by simply pressing a thumb button. The nozzle end is bright red. The support and hose insert are black.

or use Readers' Service blank on page 79

How you can help to build a stronger America



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TODAY'S boys and girls — America's future citizens—are in your care. Fitting them both physically and mentally to solve the problems of post-war years puts a great responsibility on all educators and health authorities.

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WHAT'S NEW for SCHOOLS

The other nozzle is a one-way, straight stream type with one-piece molding in solid black finish.

Both nozzles are available for standard hose sizes of fire extinguishers and tanks pressure-operated by stirrup pumps. —American Molded Products Co., 1751 North Honore Street, Chicago.

• When inquiring, refer to NS518

Wall Charts Teach Tecnics

Contain Explanatory Examples

Two wall charts to aid teachers, pupils, technicians and engineers in war training and in industry are new on the market. Measuring 26 by 36 inches ready for hanging, the charts are available without charge to schools.

The Ohm's Law Chart is used for graphical determination of wattage, voltage, current and resistance. The Parallel Resistor Chart is used for graphical determination of the resistance and resistors in parallel.

Explanatory examples are given on the face of each chart, according to the manufacturer. These devices are easily used by placing a ruler across any two known values; the points at which it crosses indicates other values.—Ohmite Manufacturing Company, 4835 West Flournoy, Chicago.

• When inquiring, refer to NS519

Mealpack From Central Kitchen

Preserves Food Hot or Cold

New individual lunch containers will permit one central kitchen to serve a whole school system. Mealpack units consist of five earthenware food and beverage compartments insulated and finished in several standard colors. Each com-



partment is sealed with snap-in paper covers. The top lid becomes a lap tray when the container is open. Thus, food may be eaten wherever convenient—in regular classrooms or other available space.

These units can be delivered to all schools within trucking distance. In this way staggered eating schedules can be eliminated, for once food is prepared and delivered everyone may be served at once. Containers may then be picked up by truck and returned to the kitchen for cleaning.

The manufacturer states that because of insulation and design, foods and beverages will be held at appetizing eating temperatures for many hours after they have been packed.—Mealpack, Inc., 152 West Forty-Second Street, New York City 18.

• When inquiring, refer to NS520

WHAT'S NEW for SCHOOLS

Plastic Seat Needs No Maintenance

Available in Two Colors

Easy to keep clean, this plastic toilet seat requires no maintenance, according to the manufacturer. Made of one piece solid molded plastic, the seats are nonflammable, unaffected by acids, moisture or elements and resistant to



oil, grease, and alkalis. The new material avoids the old problems of splitting, warping, cracking, color-fading, staining, peeling and crazing. There are no joints, seams or crevices to catch dirt or bacteria.

The seats are manufactured in standard designs to fit both regular and elongated types of toilet bowls. Each design is available in two standard colors, ebony black and brown.—Eclipse Plastic Industries, 5150 North Thirty-Second Street, Milwaukee.

• When inquiring, refer to NS521

NEW CATALOGS

How Electronic Tubes Function

Booklet Explains Principles

Basic principles of the ways electronic tubes function are explained and illustrated in a newly announced booklet from Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa.

In 36 pages, schematic drawings of tube construction and diagrams showing typical circuits for various functions are used to explain how electronic tubes rectify, amplify, generate, control and transform light into current and current into light. Entitled "The ABC of Electronics at Work," the booklet includes discussion of frequency heating, dynamic balancing, resistance welding control, radio and radio-telephony, television, precipitron and industrial and medical x-ray.

Explanations are for both industrial and military application of each basic function of electronic tubes.

• When inquiring, refer to NS522

Synthetic Rubber Processed

Booklet Describes Properties

Science classes may be interested in the booklet, "The Five Commercial Types of Synthetic Rubber," just released by the United States Rubber Company, Synthetic Rubber Division, 1230 Sixth Avenue, New York City.

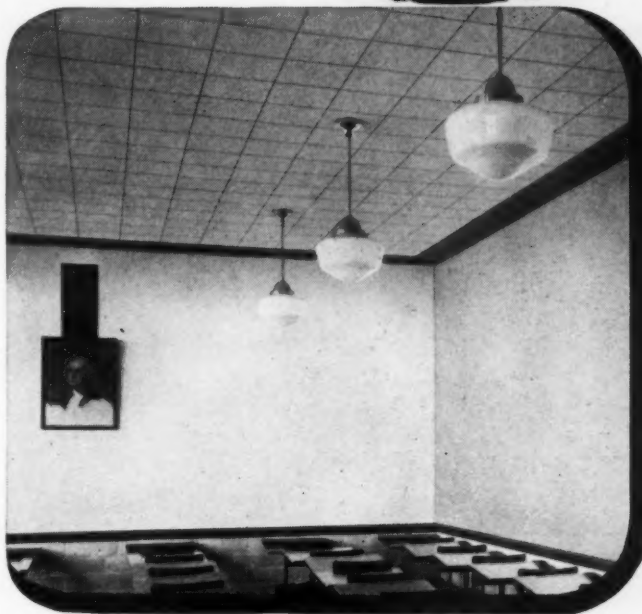
The pamphlet traces the development of synthetic rubber from its laboratory beginnings, describes the properties of commercial synthetic rubber and briefly discusses the

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WHAT'S NEW for SCHOOLS

part played by the U. S. Rubber Company in development, manufacture and use of products.

Photographs, diagrams and charts are included. According to the producer, the booklet has been cited for study by several of the foremost technical schools and colleges in the country.

• When inquiring, refer to **NS523**

Centerless Grinding Explained

Planned for Vocational Instructors

The booklet, "Explaining the Centerless Principle," was prepared for vocational instructors as an aid in presenting the subject of centerless grinding to their classes, according to the producer, the Cincinnati Grinders Incorporated, Marburg and Klein Streets, Cincinnati. Illustrations have been taken from the company's training manual and the text has been taken from lecture material.

• When inquiring, refer to **NS524**

Balopticons on Booklet Display

Good Instruction in Still Projection

An illustrated booklet on balopticons and accessories is new on the market. Published by Bausch & Lomb Optical Co., 626 St. Paul Street, Rochester, N. Y., the manual discusses the various types of balopticons.

Still projectors are suitable for instructional use, according to the manufacturer, for the attention of everyone in an audience can be directed to the same thing at the same time. The still projections provide ample opportunity for observation and discussion.

• When inquiring, refer to **NS525**

Conditioning Boiler Water

Treats Impurities and Preventives

Bulletin 504 is devoted to boiler water conditioning. It explains the types of impurities found in boiler feedwater, how these impurities accumulate, what happens when subjected to boiler temperatures, common causes of boiler scale, sludge, corrosion and carry-over and the methods for preventing these troubles.

The publisher, Elgin Softener Corporation, Elgin, Ill., will supply a copy of the pamphlet upon request.

• When inquiring, refer to **NS526**

Do's, Don'ts in Welding, Cutting

Pocket-Sized Booklet Free

Here is a handbook of do's and don'ts for welding and cutting operators. Pocket sized, the booklet contains 20 pages written in easy-to-understand style. The International Acetylene Association, 30 East Forty-Second Street, New York City, or any manufacturer of oxygen, acetylene, carbide or welding and cutting apparatus and supplies will provide the "Handbook for the Welding and Cutting Operator" in reasonable quantities without charge.

• When inquiring, refer to **NS527**

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- When inquiring, refer to **NS528**

FILM RELEASES

School-Made Films—Present student-teacher project museum activities, teacher travel. Now available.—**Bell Howell Company, 1801-1815 Larchmont Avenue, Chicago**

- When inquiring, refer to **NS529**

Women Are Warriors—Deals with mobilizing the women of the United Nations. Portrays Russian women on battlefields as technicians and nurses and English women in factories, on farms and in civilian defense.—**Castle Film Inc., 30 Rockefeller Plaza, New York City.**

- When inquiring, refer to **NS530**

Kiko the Kangaroo—A cartoon recommended for relaxation between instructional films.—**Castle Films, Inc., 30 Rockefeller Plaza, New York City.**

- When inquiring, refer to **NS531**

Forward Commandos—Introduces facts about techniques involved in training commandos in Canada. Final sequence presents the story of a raid on the Nazi-held coast of Norway.—**Castle Films, Inc., 30 Rockefeller Plaza, New York City.**

- When inquiring, refer to **NS532**

We're On the Spot—An industrial safety film. 16 or 35 mm. sound or silent. Portrays common accident hazards in industrial plants. Includes employee and worker responsibility and foreman and worker relationship.—**Vision Educational Productions, 509 Fifth Avenue, New York City.**

- When inquiring, refer to **NS533**

Battle of the Harvests—Portrays the mobilizing of food in a world-wide battle of harvests to serve fighting nations. For sale only.—**Castle Films, Inc., 30 Rockefeller Plaza, New York City.**

- When inquiring, refer to **NS534**

Axis Smashed in Africa—16 mm. sound and silent. Shows the collapse of the enemy in Tunisia as it happened.—**Castle Films, Inc., 30 Rockefeller Plaza, New York City.**

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